ML-122 Installation Manual
Phase 7 / Non-Coin

WARNING: For your safety the information in this manual must be followed to minimize the risk of fire or explosion or to prevent property damage, personal injury or death.

— Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

— WHAT TO DO IF YOU SMELL GAS:

- Do not try to light any appliance.
- Do not touch any electrical switch; do not use any phone in your building.
- Clear the room, building or area of all occupants.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

— Installation and service must be performed by a qualified installer, service agency or the gas supplier.

AVERTISSEMENT: Assurez-vous de bien suivre les instructions données dans cette notice pour réduire au minimum le risque d'incendie ou d'explosion ou pour éviter tout dommage matériel, toute blessure ou la mort.

— Ne pas entreposer ni utiliser d'essence ni d'autres vapeurs ou liquides inflammables à proximité de cet appareil ou de tout autre appareil.

— QUE FAIRE SI VOUS SENTEZ UNE ODEUR DE GAZ:

- Ne pas tenter d'allumer d'appareils.
- Ne touchez à aucun interrupteur. Ne pas vous servir des téléphones se trouvant dans le bâtiment.
- Évacuez la pièce, le bâtiment ou la zone.
- Appelez immédiatement votre fournisseur de gaz depuis un voisin. Suivez les instructions du fournisseur.
- Si vous ne pouvez rejoindre le fournisseur de gaz, appelez le service des incendies.

— L'installation et l'entretien doivent être assurés par un installateur ou un service d'entretien qualifié ou par le fournisseur de gaz.

American Dryer Corp.®

American Dryer Corporation
88 Currant Road
Fall River MA 02720-4781
Telephone: (508) 678-9000 / Fax: (508) 678-9447
e-mail: techsupport@amdry.com

www.amdry.com

ADC Part No. 113363

Retain This Manual In A Safe Place For Future Reference

American Dryer Corporation products embody advanced concepts in engineering, design, and safety. If this product is properly maintained, it will provide many years of safe, efficient, and trouble-free operation.

ONLY qualified technicians should service this equipment.

OBSERVE ALL SAFETY PRECAUTIONS displayed on the equipment or specified in the installation manual included with the dryer.

The following "**FOR YOUR SAFETY**" caution **must be** posted near the dryer in a prominent location.

FOR YOUR SAFETY	POUR VOTRE SÉCURITÉ
Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.	Ne pas entreposer ni utiliser d'essence ni d'autres vapeurs ou liquides inflammables à proximité de cet appareil ou de tout autre appareil.

We have tried to make this manual as complete as possible and hope you will find it useful. **ADC** reserves the right to make changes from time to time, without notice or obligation, in prices, specifications, colors, and material, and to change or discontinue models. The illustrations included in this manual may not depict your particular dryer **exactly**.

Important

For your convenience, log the following information:

DATE OF PURCHASE _____ **MODEL NO.** **ML-122**

RESELLER'S NAME _____

Serial Number(s) _____

_____

_____

Replacement parts can be obtained from your reseller or the **ADC** factory. When ordering replacement parts from the factory, you can FAX your order to **ADC** at (508) 678-9447 or telephone your order directly to the **ADC** Parts Department at (508) 678-9000. Please specify the dryer **model number** and **serial number** in addition to the **description** and **part number**, so that your order is processed accurately and promptly.

"IMPORTANT NOTE TO PURCHASER"

Information **must be** obtained from your local gas supplier on the instructions to be followed if the user smells gas. These instructions **must be** posted in a prominent location near the dryer.

IMPORTANT

YOU MUST DISCONNECT AND LOCKOUT THE ELECTRIC SUPPLY AND THE GAS SUPPLY OR THE STEAM SUPPLY BEFORE ANY COVERS OR GUARDS ARE REMOVED FROM THE MACHINE TO ALLOW ACCESS FOR CLEANING, ADJUSTING, INSTALLATION, OR TESTING OF ANY EQUIPMENT PER OSHA (Occupational Safety and Health Administration) **STANDARDS.**

"Caution: Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper operation."

«Attention: Au moment de l'entretien des commandes, étiquetez tous les fils avant de les débrancher. Des erreurs de câblage peuvent entraîner un fonctionnement inadéquat et dangereux.»

CAUTION

DRYERS SHOULD NEVER BE LEFT UNATTENDED WHILE IN OPERATION.

WARNING

CHILDREN SHOULD NOT BE ALLOWED TO PLAY ON OR NEAR THE DRYER(S).

CHILDREN SHOULD BE SUPERVISED IF NEAR DRYERS IN OPERATION.

FOR YOUR SAFETY

DO NOT DRY MOP HEADS IN THE DRYER.

DO NOT USE DRYER IN THE PRESENCE OF DRY CLEANING FUMES.

WARNING

UNDER NO CIRCUMSTANCES should the dryer door switch, the lint drawer switch, or the heat safety circuit ever be disabled.

WARNING

The dryer *must never be* operated with any of the back guards, outer tops, or service panels removed. PERSONAL INJURY OR FIRE COULD RESULT.

WARNING

DRYER *MUST NEVER BE* OPERATED WITHOUT THE LINT FILTER/SCREEN IN PLACE, EVEN IF AN EXTERNAL LINT COLLECTION SYSTEM IS USED.

IMPORTANT

PLEASE OBSERVE ALL SAFETY PRECAUTIONS displayed on the equipment and/or specified in the installation manual included with the dryer.

Dryers ***must not be*** installed or stored in an area where it **will be** exposed to water or weather.

The wiring diagram for the dryer is located in the front electrical control box area.

IMPORTANT

Dryer *must be* installed in a location/environment, which the ambient temperature remains between 40° F (4.44° C) and 130° F (54.44° C).

Table of Contents

SECTION I
SAFETY PRECAUTIONS 2

SECTION II
SPECIFICATIONS/COMPONENT IDENTIFICATION 4
A. Specifications 4
B. Component Identification 6

SECTION III
INSTALLATION PROCEDURES 8
A. Location Requirements 8
B. Unpacking/Setting Up 9
C. Dryer Enclosure Requirements 11
D. Fresh Air Supply Requirements 11
E. Exhaust Requirements 12
F. Electrical Information 17
G. Gas Information 19
H. Steam Information 23
I. Water Information 26
J. Preparation for Operation/Start-Up 29
K. Preoperational Tests 30
L. Preoperational Instructions 31
M. Compressed Air Requirements 33
N. Shutdown Instructions 34

SECTION IV
SERVICE/PARTS INFORMATION 35
A. Service 35
B. Parts 35

SECTION V
WARRANTY INFORMATION 36
A. Returning Warranty Cards 36
B. Warranty 36
C. Returning Warranty Parts 36

SECTION VI
ROUTINE MAINTENANCE 38
A. Cleaning 38
B. Adjustments 39
C. Lubrication 39

SECTION VII
MANUAL RESET HI-LIMIT INSTRUCTIONS 40
A. Phase 7 40
B. Dual Timer 40

SECTION VIII
DATA LABEL INFORMATION 41

SECTION IX
PROCEDURE FOR FUNCTIONAL CHECK OF REPLACEMENT COMPONENTS 42

SECTION I
SAFETY PRECAUTIONS

WARNING: For your safety, the information in this manual ***must be*** followed to minimize the risk of fire or explosion or to prevent property damage, personal injury, or loss of life.

WARNING: **The dryer *must never be* operated with any of the back guards, outer tops, or service panels removed. PERSONAL INJURY OR FIRE COULD RESULT**.

1. **DO NOT** store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

2. Purchaser/user should consult the local gas supplier for proper instructions to be followed in the event the user smells gas. The instructions **should be** posted in a prominent location.

3. WHAT TO DO IF YOU SMELL GAS:

   a. **DO NOT** try to light any appliance.

   b. **DO NOT** touch any electrical switch.

   c. **DO NOT** use any phone in your building.

   d. Clear the room, building, or area of **ALL** occupants.

   e. Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.

   f. If you **cannot** reach your gas supplier, call the fire department.

4. Installation and service **must be** performed by a qualified installer, service agency, or gas supplier.

5. Dryer(s) **must be** exhausted to the outdoors.

6. Although **ADC** produces a very versatile dryer, there are some articles that, due to fabric composition or cleaning method, **should not be** dried in it.

WARNING: Dry only water washed fabrics. ***DO NOT*** dry articles spotted or washed in dry cleaning solvents, a combustible detergent, or "all purpose" cleaner. **EXPLOSION COULD RESULT**.

WARNING: ***DO NOT*** dry rags or articles coated or contaminated with gasoline, kerosene, oil, paint, or wax. **EXPLOSION COULD RESULT**.

WARNING: ***DO NOT*** dry mop heads. Contamination by wax or flammable solvents will create a fire hazard.

WARNING: ***DO NOT*** use heat for drying articles that contain plastic, foam, sponge rubber, or similarly textured rubberlike materials. Drying in a heated basket (tumbler) may damage plastics or rubber and may be a fire hazard.

7. A program **should be** established for the inspection and cleaning of lint in the burner area, exhaust ductwork, and area around the back of the dryer. The frequency of inspection and cleaning can best be determined from experience at each location.

WARNING: The collection of lint in the burner area and exhaust ductwork can create a potential fire hazard.

8. For personal safety, the dryer **must be** electrically grounded in accordance with local codes and/or the National Electrical Code ANSI/NFPA NO. 70-LATEST EDITION, or in Canada, the Canadian Electrical Codes Parts 1 & 2 CSA C22.1-1990 or LATEST EDITION.

NOTE: Failure to electrically ground the dryer properly will VOID THE WARRANTY.

9. **UNDER NO CIRCUMSTANCES** should the dryer door switch, the lint drawer switch, or the heat safety circuit ever be disabled.

WARNING: PERSONAL INJURY OR FIRE COULD RESULT SHOULD THE DRYER DOOR SWITCH, THE LINT DRAWER SWITCH, OR THE HEAT SAFETY CIRCUIT EVER BE DISABLED.

10. This dryer is not to be used in the presence of dry cleaning solvents or fumes.

11. Remove articles from the dryer as soon as the drying cycle has been completed.

WARNING: Articles left in the dryer after the drying and cooling cycles have been completed can create a fire hazard.

12. READ AND FOLLOW ALL CAUTION AND DIRECTION LABELS ATTACHED TO THE DRYER.

13. For safety, proper operation, and optimum performance, the dryer **must not be** operated with a load less than sixty-six percent (66%), 79 pounds (35.83 kg) of its rated capacity.

WARNING: YOU MUST DISCONNECT AND LOCKOUT THE ELECTRIC SUPPLY AND THE GAS SUPPLY OR THE STEAM SUPPLY BEFORE ANY COVERS OR GUARDS ARE REMOVED FROM THE MACHINE TO ALLOW ACCESS FOR CLEANING, ADJUSTING, INSTALLATION, OR TESTING OF ANY EQUIPMENT PER OSHA (Occupational Safety and Health Administration) **STANDARDS**.

IMPORTANT: Dryer *must be* installed in a location/environment, which the ambient temperature remains between 40° F (4.44° C) and 130° F (54.44° C).

SECTION II

SPECIFICATIONS/COMPONENT IDENTIFICATION

A. SPECIFICATIONS

MAXIMUM CAPACITY (DRY WEIGHT)			120 lbs	**54.43 kg**
TUMBLER DIAMETER			44-1/8"	**112.08 cm**
TUMBLER DEPTH			40-9/16"	**103.03 cm**
TUMBLER VOLUME			35.90 cu ft	**1.017 cu m**
TUMBLER/DRIVE MOTOR			1 hp	**0.75 kW**
BLOWER/FAN MOTOR			3 hp	**2.24 kW**
DOOR OPENING (DIAMETER)			31-3/8"	**79.71 cm**
DOOR SILL HEIGHT			26-5/8"	**67.63 cm**
WATER CONNECTION			3/4"-11.5 NH	
DRYERS PER 20'/40' CONTAINER			3 / 7	
DRYERS PER 48'/53' TRUCK			9 / 10	
Gas*	VOLTAGE AVAILABLE		208-480v 3ø 3,4w 50/60 Hz	
	APPROX. NET WEIGHT		1,370 lbs	**621.42 kg**
	APPROX. SHIPPING WEIGHT		1,430 lbs	**648.64 kg**
	AIRFLOW		2,800 cfm	**79.29 cmm**
	HEAT INPUT		415,000 Btu/hr	**104,578 kcal/hr**
	EXHAUST CONNECTION (DIAMETER)		16"	**40.64 cm**
	COMPRESSED AIR CONNECTION		1/4" Quick Connection	
	COMPRESSED AIR VOLUME		2.50 cfh	**0.07 cmh**
	INLET PIPE CONNECTION		1-1/4" F.N.P.T.	
Electric	VOLTAGE AVAILABLE		208-380v 3ø 3,4w 50/60 Hz	
	APPROX. NET WEIGHT		1,370 lbs	**621.42 kg**
	APPROX. SHIPPING WEIGHT		1,430 lbs	**648.64 kg**
	AIRFLOW		2,800 cfm	**79.29 cmm**
	EXHAUST CONNECTION (DIAMETER)		16"	**40.64 cm**
	COMPRESSED AIR CONNECTION		1/4" Quick Connection	
	COMPRESSED AIR VOLUME		2.50 cfh	**0.07 cmh**
	OVEN SIZE			
	kW	Btu/hr	**kcal/hr**	
	72	245,729	**61,923**	
Steam*	VOLTAGE AVAILABLE		208-480v 3ø 3,4w 50/60 Hz	
	APPROX. NET WEIGHT		1,450 lbs	**657.71 kg**
	APPROX. SHIPPING WEIGHT		1,500 lbs	**680.39 kg**
	AIRFLOW		2,800 cfm	**79.29 cmm**
	STEAM CONSUMPTION		450 lbs/hr	**204.12 kg/hr**
	OPERATING STEAM PRESSURE		125 psi max	**8.62 bar**
	EXHAUST CONNECTION (DIAMETER)		16"	**40.64 cm**
	COMPRESSED AIR CONNECTION		1/4" Quick Connection	
	COMPRESSED AIR VOLUME		3.25 cfh	**0.09 cmh**
	BOILER HP (NORMAL LOAD)		13 Bhp	
	SUPPLY CONNECTION		1-1/4" M.N.P.T.	
	RETURN CONNECTION		1-1/4" M.N.P.T.	

Shaded areas are stated in metric equivalents 9/27/04

* Heat reclaimer available on gas models and steam models. Contact factory for changes to specifications and drawings.

NOTE: **ADC** reserves the right to make changes in specifications at any time without notice or obligation.

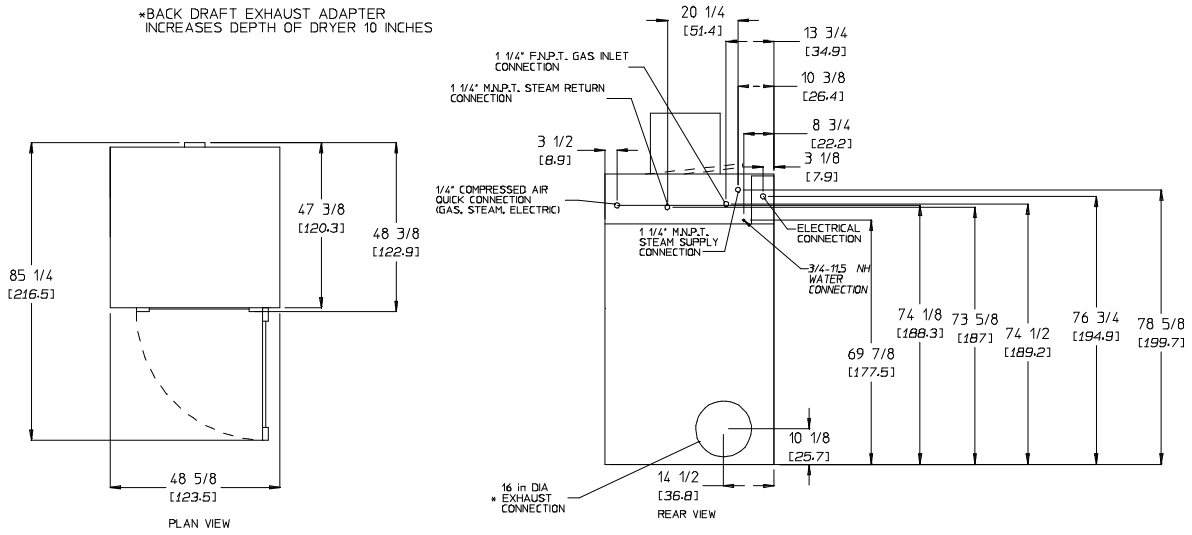
Specifications

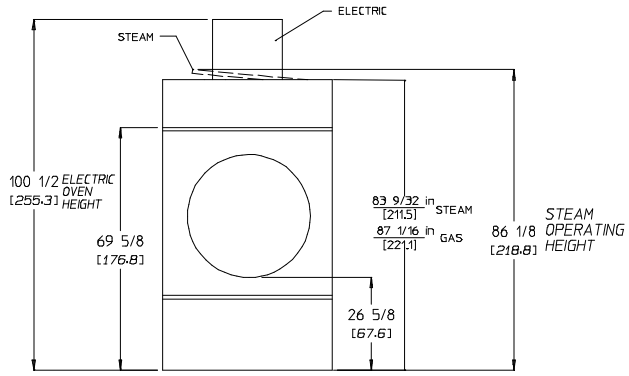
DRYER NOTES:

° DUCTWORK SIZE VARIES WITH INSTALLATION CONDITIONS.

STEAM DRYER NOTES:

° SIZE OF PIPING TO DRYER VARIES WITH INSTALLATION CONDITIONS. CONTACT FACTORY FOR ASSISTANCE.
° STEAM DRYERS MUST BE PROVIDED WITH CLEAN, DRY, REGULATED 80 PSI ± 10 PSI (5.5 BAR ± 0.69 BAR) AIR SUPPLY.



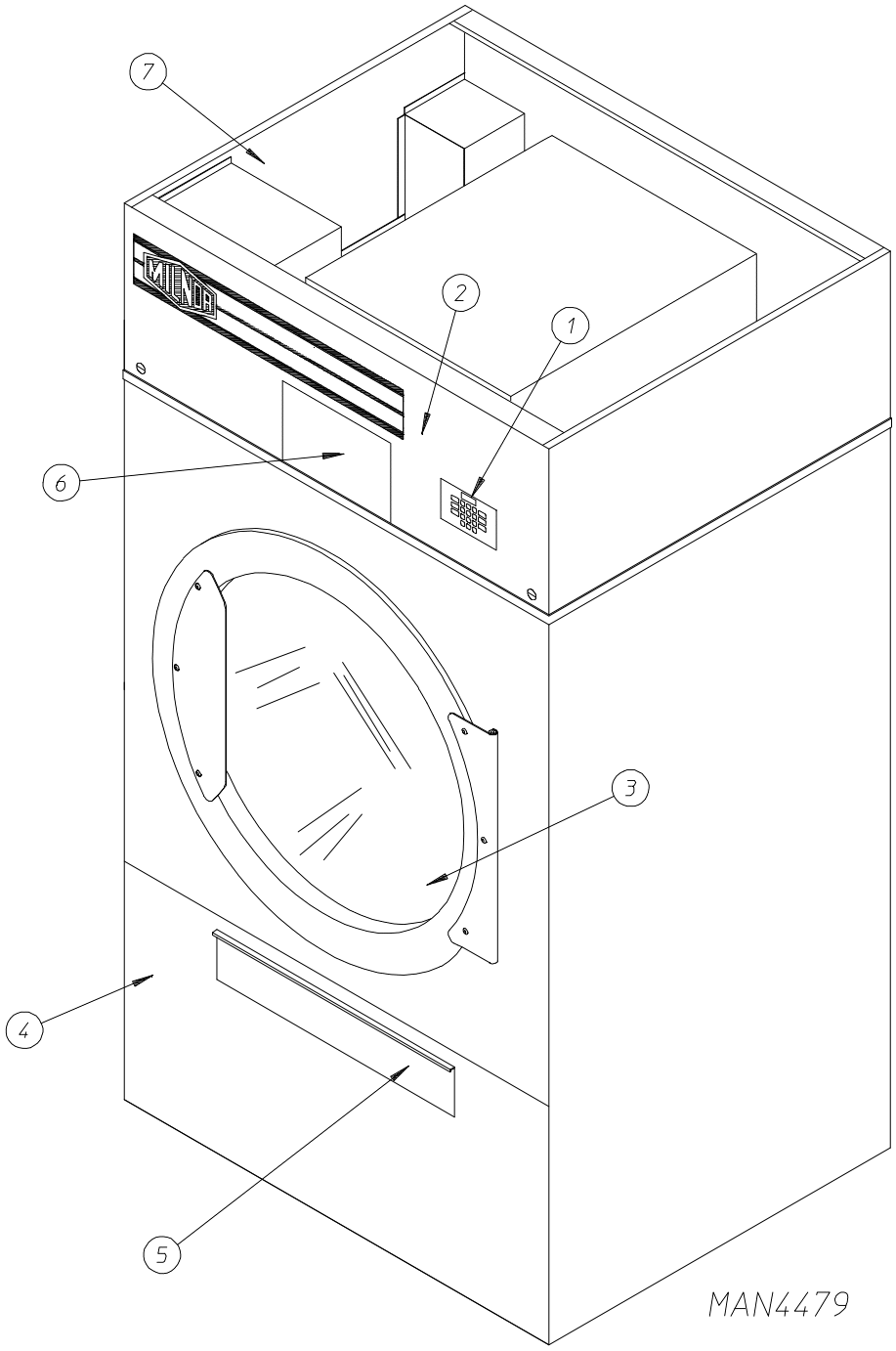


EV 9/28/04

NOTE: **ADC** reserves the right to make changes in specifications at any time without notice or obligation.

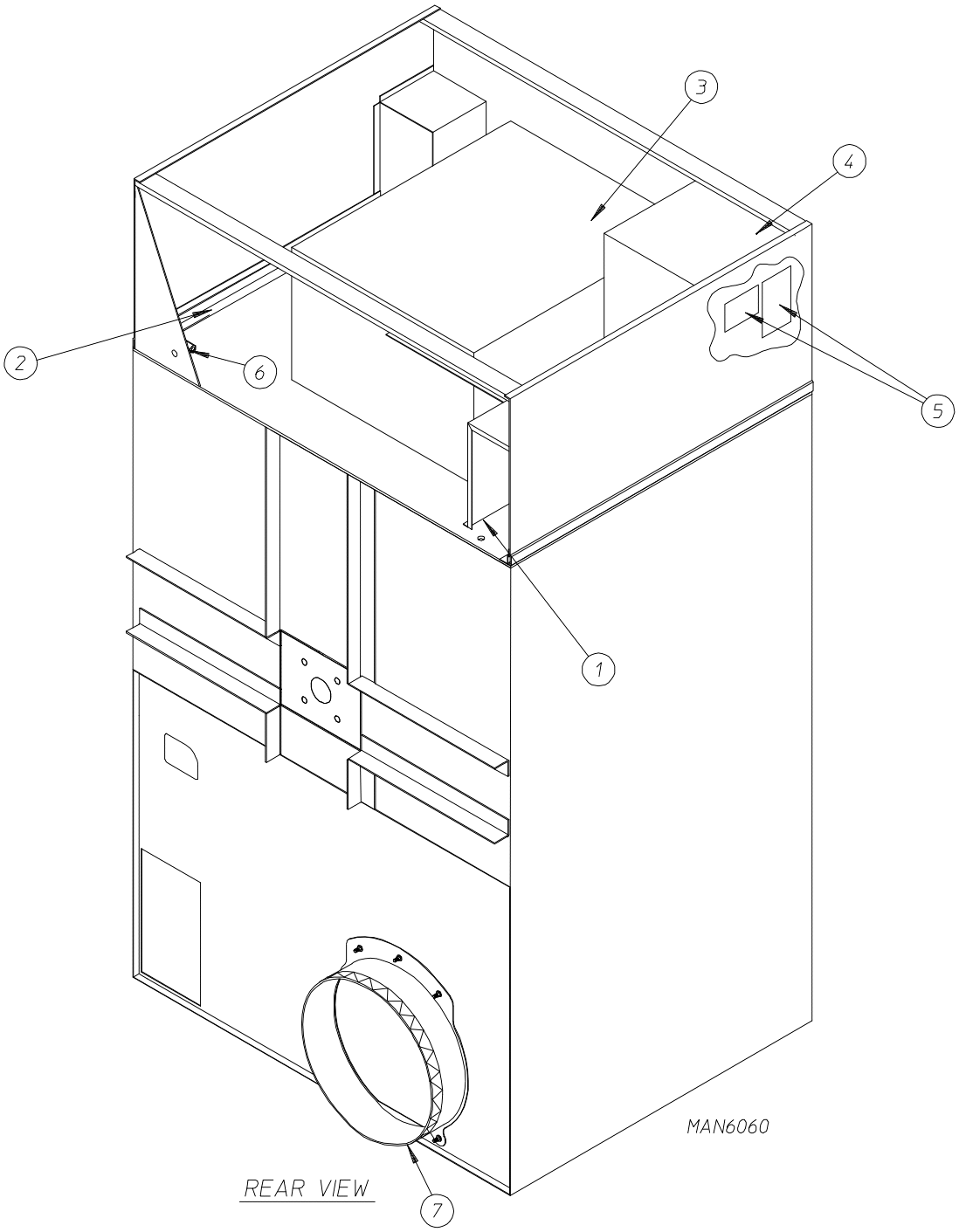
B. COMPONENT IDENTIFICATION

1. Dryer Front View



Illus. No.	Description
1	Microprocessor Control/Keyboard (touch pad) Panel Assembly (controls)
2	Control (top access) Door Assembly
3	Main Door Assembly
4	Lint Panel Assembly
5	Lint Door
6	Wire Diagram (located behind control door)
7	Top Console (module) Assembly

2. Dryer Rear View



Illus. No.	Description
1	Electrical Service Connections
2	Top Console
3	Heating Unit
4	Relay/Wiring Box
5	Data Label and Installation Label
6	Air Connection
7	Exhaust Transition Piece

SECTION III
INSTALLATION PROCEDURES

Installation **should be** performed by competent technicians in accordance with local and state codes. In the absence of these codes, the installation **must conform** to applicable American National Standards: ANSI Z223.1-LATEST EDITION (National Fuel Gas Code) or ANSI/NFPA NO. 70-LATEST EDITION (National Electrical Code) or in Canada, the installation **must conform** to applicable Canadian Standards: CAN/CGA-B149.1-M91 (Natural Gas) or CAN/CGA-B149.2-M91 (Liquid Propane [L.P.] Gas) or LATEST EDITION (for General Installation and Gas Plumbing) or Canadian Electrical Codes Parts 1 & 2 CSA C22.1-1990 or LATEST EDITION (for Electrical Connections).

A. LOCATION REQUIREMENTS

Before installing the dryer, be sure the location conforms to local codes and ordinances. In the absence of such codes or ordinances the location **must conform** with the National Fuel Gas Code ANSI.Z223.1 LATEST EDITION, or in Canada, the installation **must conform** to applicable Canadian Standards: CAN/CGA-B149.1-M91 (Natural Gas) or CAN/CGA-B149.2-M91 (L.P. Gas) or LATEST EDITION (for General Installation and Gas Plumbing).

1. The dryer **must be** installed on a sound level floor capable of supporting its weight. Carpeting **must be** removed from the floor area that the dryer is to rest on.

IMPORTANT: "The dryer ***must be*** installed on noncombustible floors only."

2. The dryer **must not be** installed or stored in an area where it will be exposed to water and/or weather.

3. The dryer is for use in noncombustible locations.

4. Provisions for adequate air supply **must be** provided as noted in this manual (refer to **Fresh Air Supply Requirements** in **Section D**).

5. Clearance provisions **must be** made from combustible construction as noted in this manual (refer to **Dryer Enclosure Requirements** in **Section C**).

6. Provisions **must be** made for adequate clearances for servicing and for operation as noted in this manual (refer to **Dryer Enclosure Requirements** in **Section C**).

7. The dryer **must be** installed with a proper exhaust duct connection to the outside as noted in this manual (refer to **Exhaust Requirements** in **Section E**).

8. Dryer **must be** located in an area where correct exhaust venting can be achieved as noted in this manual (refer to **Exhaust Requirements** in **Section E**).

IMPORTANT: Dryer ***should be*** located where a minimum amount of exhaust duct **will be** necessary.

9. The dryer **must be** installed with adequate clearance for air openings into the combustion chamber.

CAUTION: This dryer produces combustible lint and ***must be*** exhausted to the outdoors. Every 6 months, inspect the exhaust ducting and remove any lint buildup.

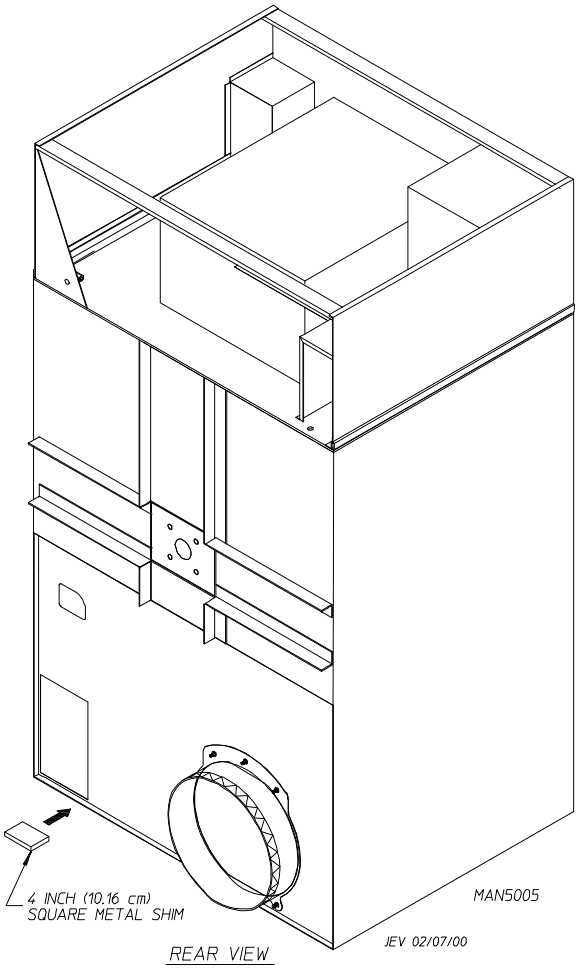
IMPORTANT: Dryer *must be* installed in a location/environment, which the ambient temperature remains between 40° F (4.44° C) and 130° F (54.44° C).

B. UNPACKING/SETTING UP

Remove protective shipping material (i.e., plastic wrap and/or optional shipping box) from dryer.

IMPORTANT: Dryer ***must be*** transported and handled in an upright position at **ALL** times.

The dryer can be moved to its final location while still attached to the skid or with the skid removed. To unskid the dryer, locate and remove the four (4) lag bolts securing the base of the dryer to the wooden skid. Two (2) are at the rear base, and two (2) are located in the bottom of the lint chamber. To remove the two (2) lag bolts located in the lint chamber area, remove the front panel.



Leveling Dryer

1. To level the dryer, place 4-inch (10.16 cm) square metal shims or other suitable material under the base pads. It is suggested that the dryer be tilted slightly to the rear (refer to the **illustration above**).

2. If more headroom is needed when moving the dryer into position, the top console (module) may be removed.

To Remove Top Console (module):

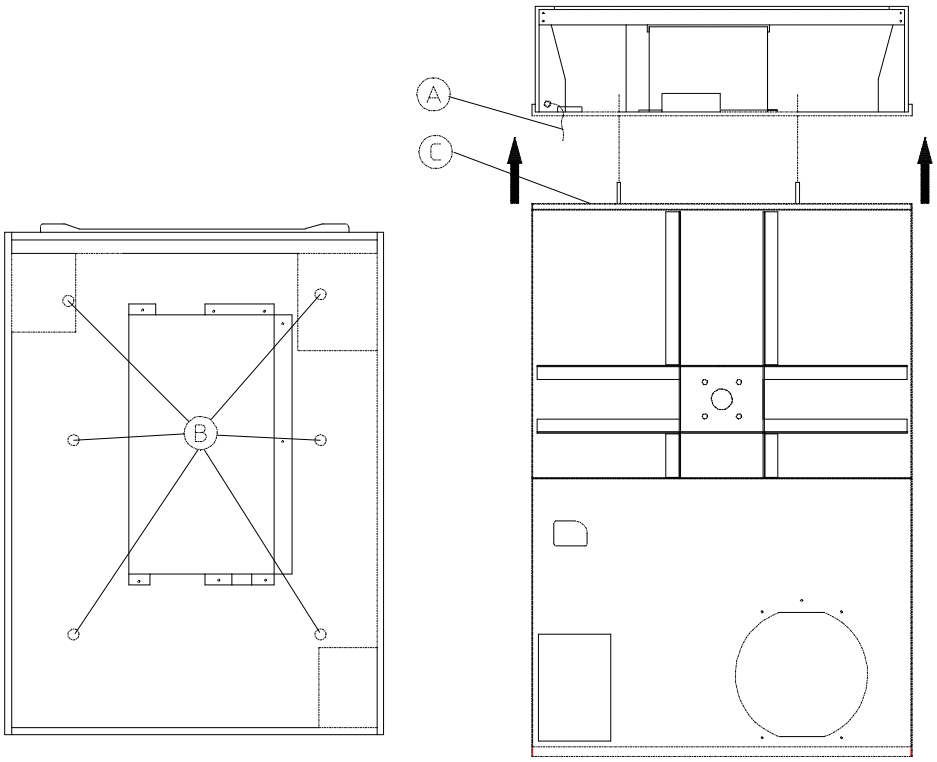
a. Disconnect the ground wire (A in the **illustration below**) located at the rear upper left corner of the dryer.

b. Remove the six (6) sets of nuts and washers (B in the **illustration below**) holding the console (module) to the base.

c. Disconnect the white plug connector (C in the **illustration below**) located on the top of the rear electric service/relay box (provides power to the heat circuit).

d. Disconnect air connection from the 3-way micro valve.

e. Lift the console (module) off of the dryer base.

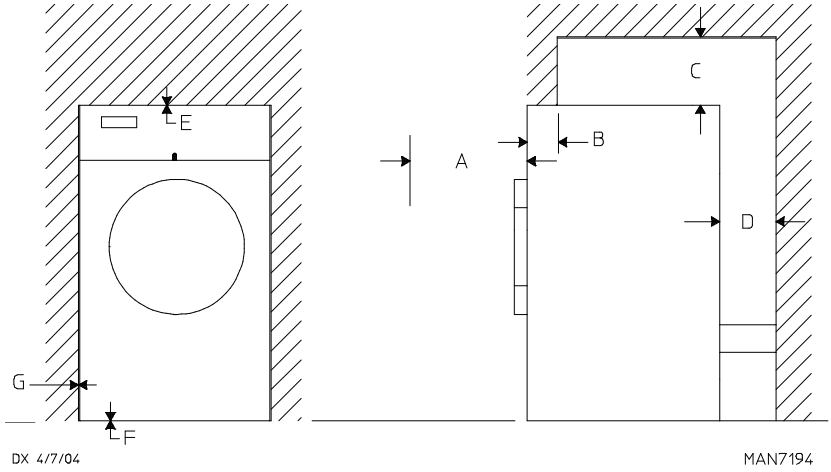


IMPORTANT: The dryer ***must be*** transported and handled in an upright position at **ALL** times.

C. DRYER ENCLOSURE REQUIREMENTS

Bulkheads and partitions **should be** made of noncombustible material.

NOTE: Allowances ***must be*** made for opening the control door.



A 38-inches (76.2 cm) for optimum opening of load door.

B The maximum thickness of the bulkhead for gas dryers is 4-inches (10.16 cm). For electric and steam dryers the maximum thickness of the bulkhead is 1-inch (2.54 cm) within 3-inches (7.62 cm) from the top of the control door.

C For gas and electric dryers a minimum overhead clearance of 12-inches (30.48 cm) is required, providing no sprinkler is located above the dryer. For steam dryers or if a sprinkler is located above the dryer, 18-inches (45.72 cm) is required.

D Dryer should be positioned 12-inches (30.48 cm) away from the nearest obstruction and 24-inches (60.96 cm) is recommended for ease of installation, maintenance, and service.

E 2-inch (5.08 cm) minimum is required for opening the control door.

F Flooring should be level or below dryer cabinet for ease of removing panels during maintenance.

G Dryers may be positioned sidewall to sidewall, however a 1/16" (1.5875 mm) minimum allowance must be made for the opening and closing of the control door, along with the removal of panels during maintenance.

D. FRESH AIR SUPPLY REQUIREMENTS

When the dryer is operating, it draws in room air, heats it, passes this air through the basket (tumbler), and exhausts it out of the building. Therefore, the room air **must be** continually replenished from the outdoors. If the make-up air is inadequate, drying time and drying efficiency will be adversely affected. Ignition problems and sail switch "fluttering" problems may result, as well as premature motor failure from overheating. The dryer **must be** installed with provisions for adequate combustion and make-up air supply.

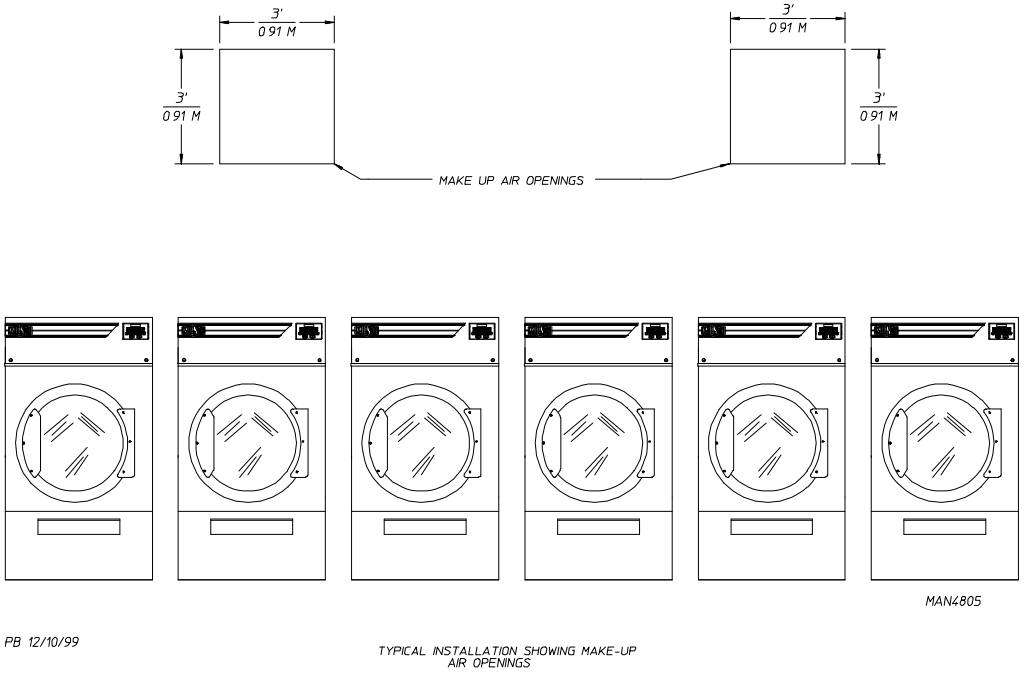
Air supply (make-up air) **must be** given careful consideration to ensure proper performance of each dryer. An unrestricted source of air is necessary for each dryer. An airflow of 2,800 cfm (79.28 cmm) **must be** supplied to each dryer. As a general rule, an unrestricted air entrance from the outdoors (atmosphere) of a minimum of 3 square feet (0.279 square meters) is required for each dryer.

To compensate for the use of registers or louvers used over the openings, this make-up air **must be** increased by approximately thirty-three percent (33%). Make-up air openings **should not be** located in an area directly near where exhaust vents exit the building.

It is not necessary to have a separate make-up air opening for each dryer. Common make-up air openings are acceptable. However, they **must be** set up in such a manner that the make-up air is distributed equally to **ALL** the dryers.

EXAMPLE: For a bank of six (6) dryers, two (2) unrestricted openings measuring 3 feet by 3 feet (0.91 meters by 0.91 meters) are acceptable.

Allowances **must be** made for remote or constricting passageways or where dryers are located at excessive altitudes or predominantly low pressure areas.



TYPICAL INSTALLATION SHOWING MAKE-UP AIR OPENINGS

IMPORTANT: Make-up air ***must be*** provided from a source free of dry cleaning solvent fumes. Make-up air that is contaminated by dry cleaning solvent fumes will result in irreparable damage to the motors and other dryer components.

NOTE: Component failure due to dry cleaning solvent fumes will VOID THE WARRANTY.

E. EXHAUST REQUIREMENTS

1. General Exhaust Ductwork Information

Exhaust ductwork **should be** designed and installed by a qualified professional. Improperly sized ductwork will create excessive back pressure which results in slow drying, increased use of energy, overheating of the dryer, and shutdown of the burner by the airflow (sail) switches, burner hi-limits, or basket (tumbler) hi-heat thermostats. The dryer **must be** installed with a proper exhaust duct connection to the outside.

CAUTION: This dryer produces combustible lint and ***must be*** exhausted to the outdoors.

CAUTION: IMPROPERLY SIZED OR INSTALLED EXHAUST DUCTWORK CAN CREATE A POTENTIAL FIRE HAZARD.

The ductwork **should be** laid out in such a way that the ductwork travels as directly as possible to the outdoors with as few turns as possible. Single or independent dryer venting is recommended.

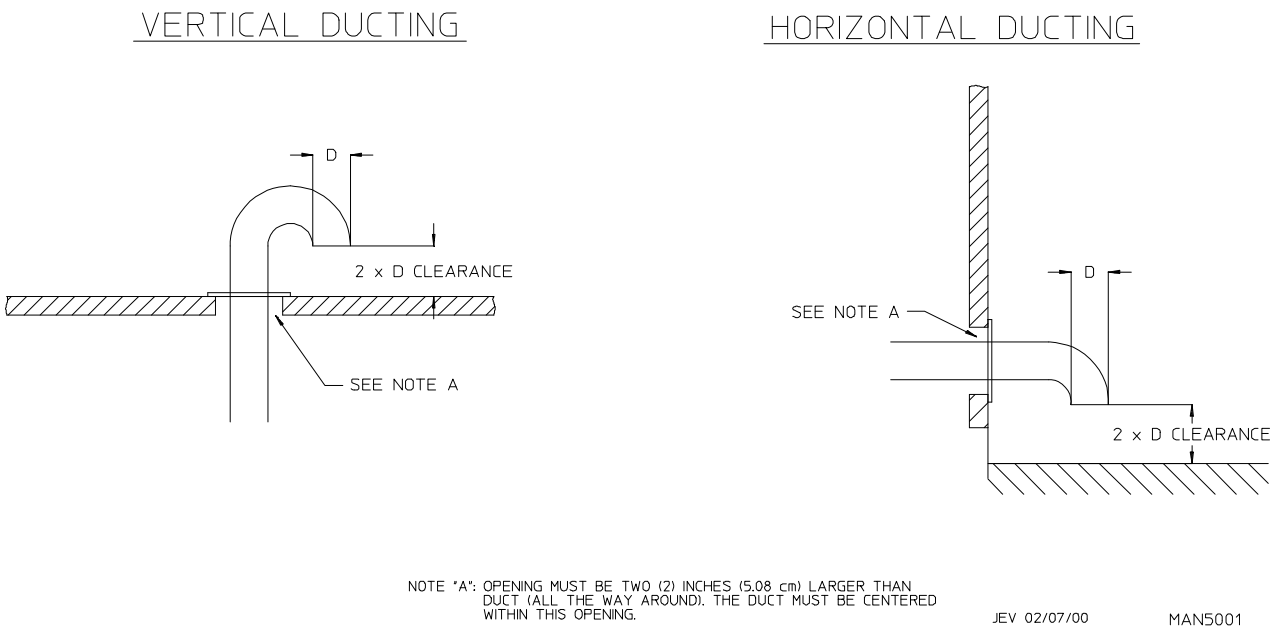
When single dryer venting is used, the ductwork from the dryer to the outside exhaust outlet **should not exceed** 20 feet (6.09 meters). In the case of multiple (common) dryer venting, the distance from the last dryer to the outside exhaust outlet **should not exceed** 20 feet (6.09 meters). The shape of the ductwork is not critical as long as the minimum cross-sectional area is provided. It is suggested that the use of 90º turns be avoided; use 30º and/or 45º bends/angles instead. The radius of the elbows **should preferably be** 1-1/2 times the diameter of the duct. Excluding basket (tumbler)/dryer elbow connections or elbows used for outside protection from the weather, no more than two (2) elbows **should be** used in the exhaust duct run. If more than two (2) elbows are used, the cross-sectional area of the ductwork **must be** increased in proportion to the number of elbows used.

ALL ductwork **should be** smooth inside with no projections from sheet metal screws or other obstructions, which will collect lint. When adding ducts, the duct to be added should overlap the duct to which it is to be connected. **ALL** ductwork joints **must be** taped to prevent moisture and lint from escaping into the building. Inspection doors **should be** installed at strategic points in the exhaust ductwork for periodic inspection and cleaning of lint from the ductwork.

NOTE: When the exhaust ductwork passes through a wall, ceiling, or roof made of combustible materials, the opening ***must be*** 2-inches (5.08 cm) larger than the duct (all the way around). The duct ***must be*** centered within this opening.

IMPORTANT: **It is recommended** that exhaust or booster fans not be used in the exhaust ductwork system.

NOTE: As per the National Fuel Gas Code, "Exhaust ducts for type 2 clothes dryers shall be constructed of sheet metal or other noncombustible material. Such ducts shall be equivalent in strength and corrosion resistance to ducts made of galvanized sheet steel not less than 0.0195-inches (26 gauge [0.5 mm]) thick."


VERTICAL DUCTING
D
2 x D CLEARANCE
SEE NOTE A
HORIZONTAL DUCTING
SEE NOTE A
D
2 x D CLEARANCE
NOTE "A": OPENING MUST BE TWO (2) INCHES (5.08 cm) LARGER THAN DUCT (ALL THE WAY AROUND). THE DUCT MUST BE CENTERED WITHIN THIS OPENING.
JEV 02/07/00
MAN5001

Outside Ductwork Protection

To protect the outside end of the horizontal ductwork from the weather, a 90° elbow bent downward **should be** installed where the exhaust exits the building. If the ductwork travels vertically up through the roof, it **should be** protected from the weather by using a 180° turn to point the opening downward. In either case, allow at least twice the diameter of the duct between the duct opening and the nearest obstruction.

IMPORTANT: ***DO NOT*** use screens, louvers, or caps on the outside opening of the exhaust ductwork.

2. Single Dryer Venting

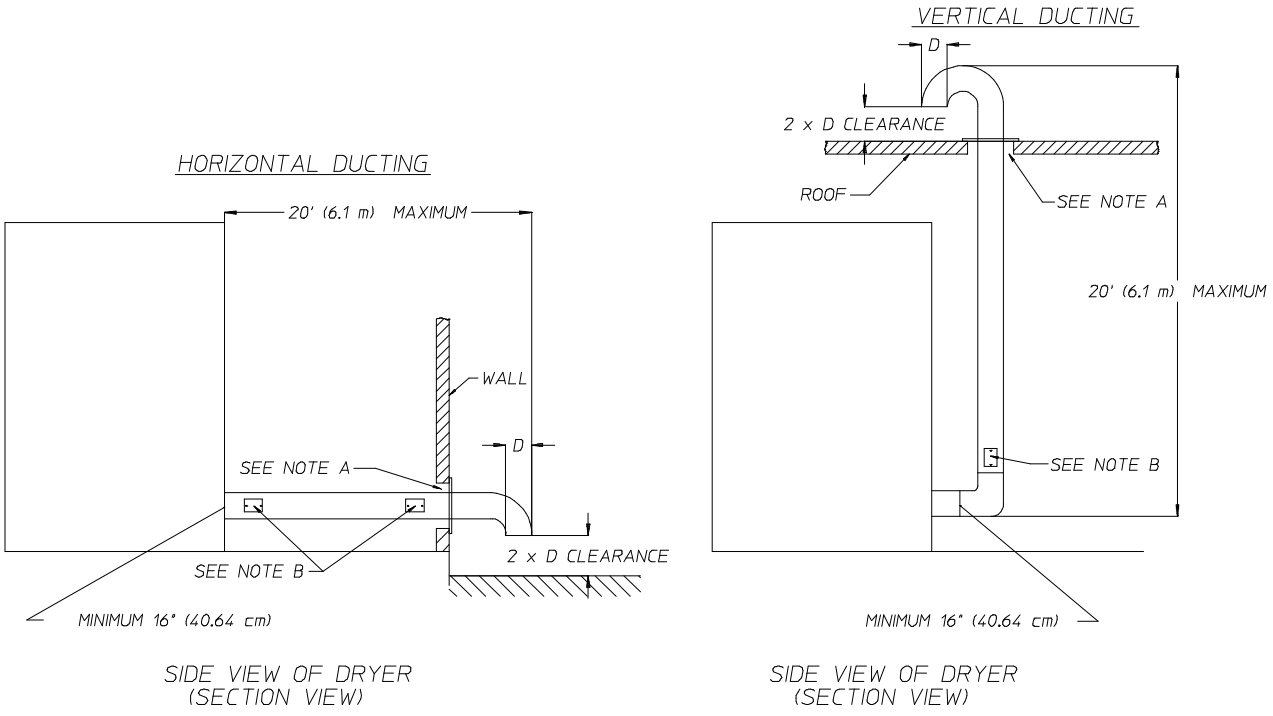
Where possible, it is suggested to provide a separate exhaust duct for each dryer. The exhaust duct **should be** laid out in such a way that the ductwork travels as directly as possible to the outdoors with as few turns as possible. It is suggested that the use of 90° turns in the ducting be avoided; use 30° and/or 45° angles instead. The shape of the exhaust ductwork is not critical as long as the minimum cross section area is provided.

IMPORTANT: The minimum duct size for a gas unit is 16-inches (40.64 cm) for a round duct and 14-1/4" x 14-1/4" (36.2 cm x 36.2 cm) for a square duct. **THE DUCT SIZE *MUST NOT BE* REDUCED ANYWHERE DOWNSTREAM OF THE DRYER**.

IMPORTANT: Exhaust back pressure measured by a manometer at each basket (tumbler) exhaust duct area ***must be*** no less than 0 and ***must not exceed*** 0.3 inches (0.74 mb) of water column (W.C.).

It is suggested that the ductwork from each dryer not exceed 20 feet (6.09 meters) with no more than two (2) elbows (excluding dryer connections). If the ductwork exceeds 20 feet (6.09 meters) or has numerous elbows, the cross-sectional area of the ductwork **must be** increased in proportion to the length and number of elbows in it. In calculating duct size, the cross-sectional area of a square or rectangular duct **must be** increased twenty percent (20%) for each additional 20 feet (6.09 meters). The diameter of a round exhaust duct **should be** increased ten percent (10%) for each additional 15 feet (4.57 meters). Each 90º elbow is equivalent to an additional 40 feet (12.19 meters), and each 45º elbow is equivalent to an additional 20 feet (6.09 meters).

Single Dryer Venting



NOTE: "A"- OPENING MUST BE 2-INCHES (5.08 cm) LARGER THAN DUCT (ALL THE WAY AROUND). THE DUCT MUST BE CENTERED WITHIN THIS OPENING.
"B"- INSPECTION DOORS SHOULD BE INSTALLED AT STRATEGIC POINTS FOR PERIODIC INSPECTION AND CLEANING

MAN7227

DMG 6/17/04

IMPORTANT: For extended ductwork runs, the cross section area of the ductwork can only be increased to an extent. Maximum proportional ductwork runs **cannot** exceed 20 feet (6.09 meters) more than the original limitations of 20 feet (6.09 meters) with two (2) elbows. When the ductwork approaches the maximum limits as noted in this manual, a professional heating, ventilating, and air-conditioning (HVAC) firm ***should be*** consulted for proper venting information.

ALL ductwork **should be** smooth inside with no projections from sheet metal screws or other obstructions, which will collect lint. When adding ducts, the duct to be added should overlap the duct to which it is to be connected. **ALL** ductwork joints **must be** taped to prevent moisture and lint from escaping into the building. Inspection doors **should be** installed at strategic points in the exhaust ductwork for periodic inspection and cleaning of lint from the ductwork.

NOTE: When the exhaust ductwork passes through a wall, ceiling, or roof made of combustible materials, the opening ***must be*** 2-inches (5.08 cm) larger than the duct (all the way around). The duct ***must be*** centered within this opening.

3. Multiple Dryer (Common) Venting

If it is not feasible to provide separate exhaust ducts for each dryer, ducts from individual dryers may be channeled into a "common main duct." The individual ducts should enter the bottom or side of the main duct at an angle not more than 45° in the direction of the flow and **should be** spaced at least 48-3/4" (123.82 cm) apart. The main duct **should be** tapered, with the diameter increasing before each individual 16-inch (40.64 cm) duct.

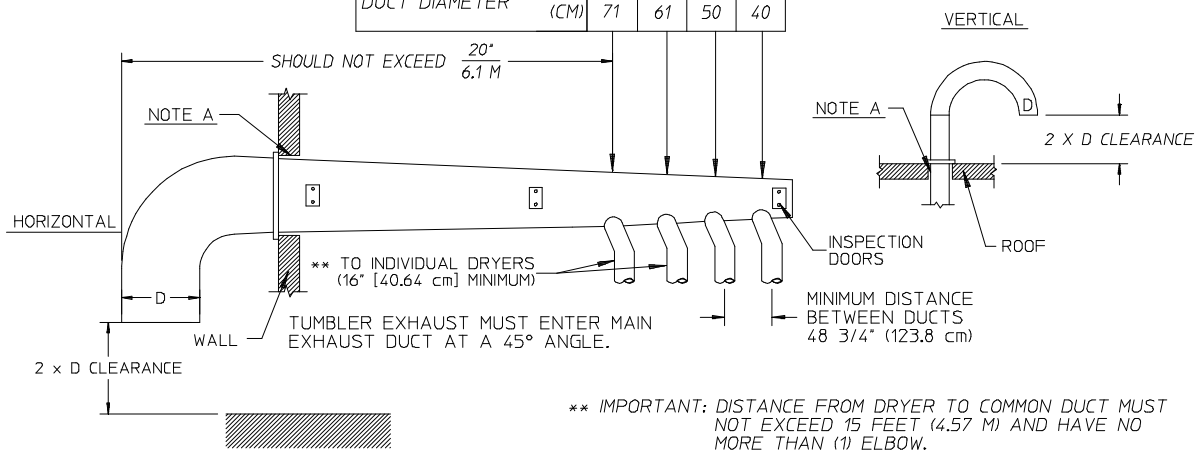
IMPORTANT: When exhausted into a multiple (common) exhaust line, a back draft damper ***must be*** installed at each dryer duct.

IMPORTANT: No more than four (4) dryers ***should be*** connected to one (1) main common duct.

The main duct may be any shape or cross-sectional area, as long as the minimum cross section area is provided. The **illustration** on the following page shows the minimum cross section area for multiple dryer round or square venting. These figures **must be** increased 10 square inches (64.52 square centimeters) when rectangular main ducting is used, and the ratio of duct width to depth **should not be** greater than 3-1/2 to 1. These figures **must be** increased in proportion if the main duct run to the last dryer to where it exhausts to the outdoors is unusually long (over 20 feet [6.09 meters]) or has numerous elbows (more than two [2]) in it. In calculating ductwork size, the cross-sectional area of a square or rectangular duct **must be** increased twenty percent (20%) for each additional 20 feet (6.09 meters). The diameter of a round exhaust **must be** increased ten percent (10%) for each additional 20 feet (6.09 meters). Each 90° elbow is equivalent to an additional 40 feet (12.19 meters) and each 45° elbow is equivalent to an additional 20 feet (6.09 meters).

Multiple Dryer Venting
16-Inch (40.64 cm) Diameter Minimum Exhaust Connections at Common Duct

NO. OF DRYERS		4	3	2	1
MINIMUM CROSS SECTION AREA	(SQ IN)	615	455	315	200
	(SQ CM)	3967	2935	2032	1290
MINIMUM ROUND DUCT DIAMETER	(IN)	28	24	20	16
	(CM)	71	61	50	40

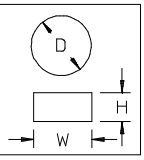

SHOULD NOT EXCEED 20' 6.1 M
NOTE A
HORIZONTAL
D
WALL
2 x D CLEARANCE
** TO INDIVIDUAL DRYERS (16" [40.64 cm] MINIMUM)
TUMBLER EXHAUST MUST ENTER MAIN EXHAUST DUCT AT A 45° ANGLE.
MINIMUM DISTANCE BETWEEN DUCTS 48 3/4" (123.8 cm)
INSPECTION DOORS
VERTICAL
NOTE A
D
2 X D CLEARANCE
ROOF
** IMPORTANT: DISTANCE FROM DRYER TO COMMON DUCT MUST NOT EXCEED 15 FEET (4.57 M) AND HAVE NO MORE THAN (1) ELBOW.

IMPORTANT: NO MORE THAN 4 DRYERS CAN BE CONNECTED TO ONE COMMON DUCT (VENT).

FORMULAS TO CALCULATE DUCTING CROSS SECTIONAL AREA

CROSS SECTIONAL AREA OF A ROUND DUCT = .785 (19.939 mm) x D^2 WHERE D = DIAMETER OF THE DUCT.

CROSS SECTIONAL AREA OF A RECTANGULAR DUCT = W x H WHERE W = WIDTH AND H = HEIGHT.



NOTE A: OPENING MUST BE 2-INCHES (5.08 CM) LARGER THAN THE DUCT (ALL THE WAY AROUND). THE DUCT MUST BE CENTERED WITHIN THIS OPENING.

MAN7228 DMG 6/17/04

IMPORTANT: For extended ductwork runs, the cross section area of the ductwork can only be increased to an extent. Maximum proportional ductwork runs **cannot** exceed 20 feet (6.09 meters) more than the original limitations of 20 feet (6.09 meters) with two (2) elbows. When the ductwork approaches the maximum limits as noted in this manual, a professional heating, ventilating, and air-conditioning (HVAC) firm ***should be*** consulted for proper venting information.

IMPORTANT: Exhaust back pressure measured by a manometer in the exhaust duct ***must be*** no less than 0 and ***must not exceed*** 0.3 inches (0.74 mb) of water column (W.C.).

The ductwork **should be** smooth inside with no projections from sheet metal screws or other obstructions, which will collect lint. When adding ducts, the duct to be added should overlap the duct to which it is to be connected. **ALL** ductwork joints **must be** taped to prevent moisture and lint from escaping into the building. Inspection doors **should be** installed at strategic points in the exhaust ductwork for periodic inspection and cleaning of lint from the ductwork.

NOTE: When the exhaust ductwork passes through a wall, ceiling, or roof made of combustible materials, the opening ***must be*** 2-inches (5.08 cm) larger than the duct (all the way around). The duct ***must be*** centered within this duct.

F. ELECTRICAL INFORMATION

1. Electrical Requirements

It is your responsibility to have **ALL** electrical connections made by a properly licensed and competent electrician to ensure that the electrical installation is adequate and conforms to local and state regulations or codes. In the absence of such codes, **ALL** electrical connections, material, and workmanship **must conform** to the applicable requirements of the National Electrical Code ANSI/NFPA NO. 70-LATEST EDITION or in Canada, the Canadian Installation Codes CAN/CGA-B149.1-M91 (Natural Gas) or CAN/CGA-B149.2-M91 (Liquid Propane [L.P.] Gas) or LATEST EDITION.

IMPORTANT: Failure to comply with these codes or ordinances, and/or the requirements stipulated in this manual can result in personal injury or component failure.

NOTE: Component failure due to improper installation will VOID THE WARRANTY.

Each dryer **should be** connected to an independently protected branch circuit. The dryer **must be** connected with copper wire only. ***DO NOT use aluminum wire, it can create a fire hazard***. The copper conductor wire/cable **must be** of proper ampacity and insulation in accordance with electric codes for making **ALL** service connections.

NOTE: The use of aluminum wire will VOID THE WARRANTY.

NOTE: Wiring diagrams are affixed to the inside at the top front control door and the rear upper back guard/panel.

2. Electrical Service Specifications

a. Gas and Steam Models ONLY

ELECTRICAL SERVICE SPECIFICATIONS (PER DRYER)

IMPORTANT: 208 VAC AND 240 VAC **ARE NOT THE SAME. When ordering, *specify exact voltage*.**

NOTES:
A. When fuses are used they **must be** dual element, time delay, current limiting, class RK1 or RK5 **ONLY**. Calculate/determine correct fuse value, by applying either local and/or National Electrical Codes to listed appliance amp draw data.
B. Circuit breakers are thermal-magnetic (industrial) motor curve type **ONLY**. For others, calculate/verify correct breaker size according to appliance amp draw rating and type of breaker used.
C. Circuit breakers for 3-phase (3ø) dryers **must be** 3-pole type.

SERVICE VOLTAGE	PHASE	WIRE SERVICE	APPROX. AMP DRAW		CIRCUIT BREAKER
			60 Hz	50 Hz	
208	3ø	3	13.7	—	20
220	3ø	3	12.5	—	20
240	3ø	3	11.6	—	20
380-400	3ø	4*	—	5.9	15
416	3ø	4*	—	5.8	15
460/480	3ø	3	9.5	—	15

* 3-wire available.

11/15/04

b. Electric Models ONLY

ELECTRICAL SERVICE SPECIFICATIONS (PER DRYER)					
IMPORTANT: 208 VAC AND 240 VAC **ARE NOT THE SAME. When ordering, *specify exact voltage*.**					
NOTES: A. When fuses are used they **must be** dual element, time delay, current limiting, class RK1 or RK5 **ONLY**. Calculate/determine correct fuse value, by applying either local and/or National Electrical Codes to listed appliance amp draw data. B. Circuit breakers are thermal-magnetic (industrial) type **ONLY**. For others, calculate/verify correct breaker size according to appliance amp draw rating and type of breaker used. C. Circuit breakers for 3-phase (3ø) dryers **must be** 3-pole type.					
SERVICE VOLTAGE	**PHASE**	**WIRE SERVICE**	**APPROX. AMP DRAW**		**CIRCUIT BREAKER**
			60 Hz	50 Hz	
72 kW					
208	3ø	3	213.6	—	300

* 3-wire available. 11/15/04

IMPORTANT: The dryer ***must be*** connected to the electric supply shown on the data label. In the case of 208 VAC OR 240 VAC, the supply voltage must match the electric service specifications of the data label **exactly**.

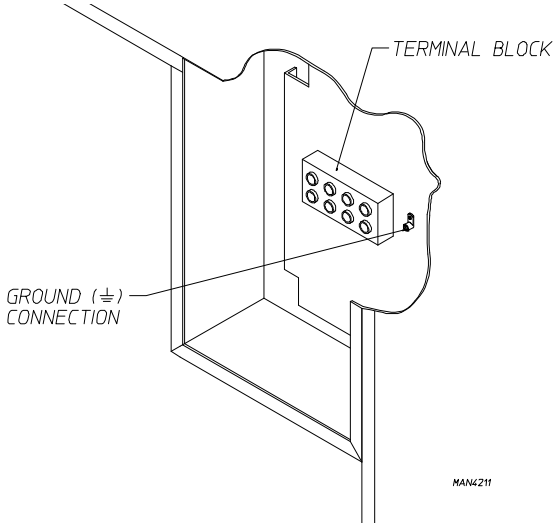
WARNING: 208 VAC AND 240 VAC ARE NOT THE SAME. Any damage done to dryer components due to improper voltage connections will automatically VOID THE WARRANTY.

NOTE: ADC reserves the right to make changes in specifications at any time without notice or obligation.

3. Electrical Connections

NOTE: A wire diagram is included with each dryer and is affixed to the back side of the top control (access) door.

The only electrical input connections to the dryer are the 3-phase (3ø) power leads (L1, L2, and L3), GROUND, and in the case of 4 wire service, the NEUTRAL. These electrical connections are made at the terminal block located in the service/relay box at the rear, upper left hand corner of the dryer. To gain access into this service box, the service cover **must be** removed.



The "LINE POWER" and the "GROUND" connections to the dryer **must be** made through the knockout hole at the top of the electric service/relay box. A strain relief **must be** used where the line power ground wires go into the electric service/relay box.

Providing local codes permit, power connections to the dryer can be made by use of a flexible underwriters laboratory (U.L.) listed power cord/pigtail (wire **must conform** to ratings of the dryer), or the dryer can be hard wired directly to the service breaker. In **ALL** cases, a strain relief **must be** used where the wire(s) enter the dryer electrical service (relay) box.

NOTE: A CIRCUIT SERVICING EACH DRYER *MUST BE* PROVIDED.

4. Grounding

A ground (earth) connection **must be** provided and installed in accordance with state and local codes. In the absence of these codes, grounding **must conform** to applicable requirements of the National Electrical Code ANSI/NFPA NO. 70-LATEST EDITION, or in Canada, the installation **must conform** to applicable Canada Standards: Canadian Electrical Codes Parts 1 & 2 CSA C22.1-1990 or LATEST EDITION. The ground connection may be to a proven earth ground at the location service panel.

NOTE: A grounding connection (terminal lug) is provided in the dryer's electrical service/relay box at the rear, upper left hand corner of the dryer.

For added personal safety, when possible, it is suggested that a separate ground wire (sized per local codes) be connected from the ground connection of the dryer to a grounded cold water pipe. ***DO NOT ground to a gas pipe or hot water pipe***. The grounded cold water pipe must have metal to metal connection all the way to the electrical ground. If there are any nonmetallic interruptions, such as a meter, pump, plastic, rubber, or other insulating connectors, they **must be** jumped out with no. 4 copper wire and securely clamped to bare metal at both ends.

IMPORTANT: For personal safety and proper operation, the dryer ***must be*** grounded. For proper operation of the microprocessor controller (computer), an earth (zero) ground is required.

NOTE: Grounding via metallic electrical conduit (pipe) **is not recommended**.

G. GAS INFORMATION

It is your responsibility to have **ALL** plumbing connections made by a qualified professional to ensure that the gas plumbing installation is adequate and conforms to local and state regulations or codes. In the absence of such codes, **ALL** plumbing connections, materials, and workmanship **must conform** to the applicable requirements of the National Fuel Gas Code ANSI Z223.1-LATEST EDITION, or in Canada, the Canadian Installation Codes CAN/CGA-B149.1-M91 (Natural Gas) or CAN/CGA-B149.2-M91 (Liquid Propane [L.P.] Gas) or LATEST EDITION.

IMPORTANT: Failure to comply with these codes or ordinances, and/or the requirements stipulated in this manual, can result in personal injury and improper operation of the dryer.

The dryer and its individual shutoff valves **must be** disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psig (3.5 kPa). The dryer **must be** isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure test of the gas supply system at test pressures equal to or less than 1/2 psig (3.5 kPa).

IMPORTANT: Failure to isolate or disconnect dryer from supply as noted can cause irreparable damage to the gas valve, which will VOID THE WARRANTY.

WARNING: FIRE OR EXPLOSION COULD RESULT DUE TO FAILURE OF ISOLATING OR DISCONNECTING THE GAS SUPPLY AS NOTED.

1. Gas Supply

The gas dryer installation **must meet** the American National Standard...National Fuel Gas Code ANSI Z223.1-LATEST EDITION, or in Canada, the Canadian Installation Codes CAN/CGA-B149.1 M91 (Natural Gas) or CAN/CGA-B149.2-M91 (Liquid Propane [L.P. Gas]) or LATEST EDITION, as well as local codes and ordinances and **must be** done by a qualified professional.

NOTE: Undersized gas piping will result in ignition problems, slow drying, increased use of energy, and can create a safety hazard.

The dryer **must be** connected to the type of heat/gas indicated on the dryer label. If this information does not agree with the type of gas available, ***DO NOT operate the dryer***. Contact the reseller who sold the dryer or contact the **ADC** factory.

IMPORTANT: Any burner changes or conversions ***must be*** made by a qualified professional.

The input ratings shown on the dryer data label are for elevations up to 2,000 feet (609.6 meters), unless elevation requirements of over 2,000 feet (609.6 meters) were specified at the time the dryer order was placed with the factory. The adjustment or conversion of dryers in the field for elevations over 2,000 feet (609.6 meters) is made by changing each burner orifice. If this conversion is necessary, contact the reseller who sold the dryer or contact the **ADC** factory.

IMPORTANT: THIS GAS DRYER **IS NOT** PROVIDED WITH AN INTERNAL GAS SUPPLY SHUTOFF AND AN EXTERNAL GAS SUPPLY SHUTOFF ***MUST BE*** PROVIDED.

2. Technical Data

a. Gas Specifications

	Type of Gas			
	NATURAL		LIQUID PROPANE	
Manifold Pressure*	3.5 inches W.C.	**8.7 mb**	10.5 inches W.C.	**26.1 mb**
In-Line Pressure	6.0 - 12.0 inches W.C.	**14.92 - 29.9 mb**	11.0 inches W.C.	**27.4 mb**

Shaded areas are stated in metric equivalents

* Measured at the gas valve pressure tap when the gas valve is on.

b. Gas Connections:

Inlet connection --- 1-1/4" F.P.T.
Inlet supply size --- 1-1/4" Diameter Pipe (minimum)
Btu/hr input -------- 415,000 (104,580 kcal/hr)

1) Natural Gas

Regulation is controlled by the dryer's gas valve's internal regulator. Incoming supply pressure **must be** consistent between a minimum of 6.0 inches (14.92 mb) and a maximum of 12.0 inches (29.9 mb) water column (W.C.) pressure.

2) Liquid Propane (L.P.) Gas

Dryers made for use with L.P. gas have the gas valve's internal pressure regulator blocked open so that the gas pressure **must be** regulated upstream of the dryer. The pressure measured at each gas valve pressure tap **must be** a consistent 10.5 inches (26.1 mb) water column. There is no regulator or regulation provided in an L.P. dryer. The water column pressure **must be** regulated at the source (L.P. tank) or an external regulator **must be** added to each dryer.

		Type of Gas						L.P. Conversion Kit Part Number
Btu/hr Rating	**kcal/hr Rating**	Natural			Liquid Propane			
		Qty.	D.M.S.*	Part Number	Qty.	D.M.S.*	Part Number	
415,000	**104,580**	3	#2	140839	3	#30	140819	882233

Shaded area is stated in metric equivalent

*Drill Measurement Size (D.M.S.) equivalents are as follows:
Natural Gas ..... #2 = 0.2210" (5.6134 mm).
Liquid Propane Gas ..... #30 = 0.1285" (3.2639 mm).

3. Piping/Connections

ALL components/materials **must conform** to National Fuel Gas Code Specifications ANSI Z223.1-LATEST EDITION, or in Canada, CAN/CGA-B149.1-M91 (Natural Gas) or CAN/CGA-B149.2-M91 (L.P. Gas) or LATEST EDITION (for General Installation and Gas Plumbing), as well as local codes and ordinances and **must be** done by a qualified professional. It is important that gas pressure regulators meet applicable pressure requirements, and that gas meters be rated for the total amount of **ALL** the appliance Btus being supplied.

The dryer is provided with a 1-1/4" N.P.T. inlet pipe connection extending out the back area of the burner box. The minimum pipe size (supply line) to the dryer is 1-1/4" diameter. For ease in servicing, the gas supply line of each dryer must have its own shutoff valve.

The size of the main gas supply line (header) will vary depending on the distance this line travels from the gas meter or, in the case of L.P. gas, the supply tank, other gas-operated appliances on the same line, etc. Specific information regarding supply line size **should be** determined by the gas supplier.

NOTE: Undersized gas supply piping can create a low or inconsistent pressure, which will result in erratic operation of the burner ignition system.

Consistent gas pressure is essential at **ALL** gas connections. It is recommended that a 1-inch (2.54 cm) pipe gas loop be installed in the supply line servicing a bank of dryers. An in-line pressure regulator **must be** installed in the gas supply line (header) if the (natural) gas pressure exceeds 12.0 inches (29.9 mb) of water column (W.C.) pressure.

NOTE: A consistent water column test pressure of 3.5 inches (8.7 mb) for natural gas and 10.5 inches (26.1 mb) for L.P. dryers is required at the gas valve pressure tap of each dryer for proper and safe operation.

A 1/8" N.P.T. plugged tap, accessible for a test gauge connection, **must be** installed in the main gas supply line immediately upstream of each dryer.

IMPORTANT: Pipe joint compounds that resist the action of natural gas and liquid propane (L.P.) gas ***must be*** used.

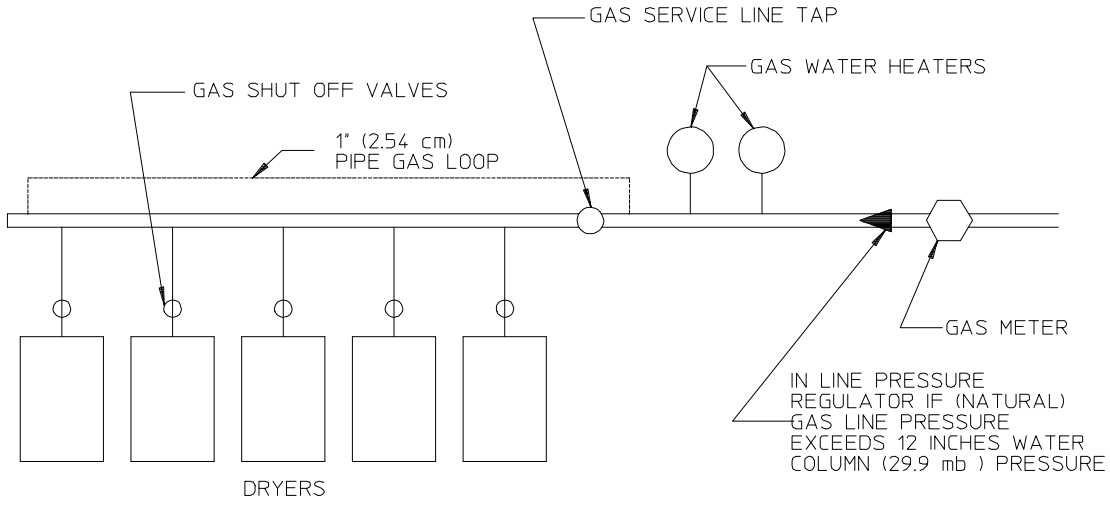
IMPORTANT: Test **ALL** connections for leaks by brushing on a soapy water solution (liquid detergent works well).

WARNING: NEVER TEST FOR LEAKS WITH A FLAME!!!

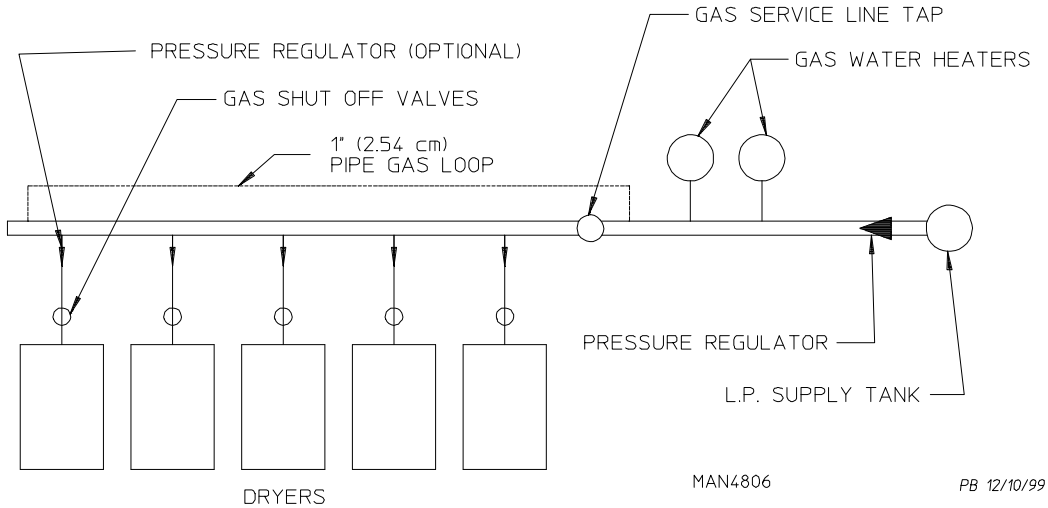
IMPORTANT: The dryer and its individual shutoff valve ***must be*** disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psig (3.5 kPa).

NOTE: The dryer ***must be*** isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure test of the gas supply system at test pressures equal to or less than 1/2 psig (3.5 kPa).

TYPICAL NATURAL GAS INSTALLATION



TYPICAL L.P GAS INSTALLATION



H. STEAM INFORMATION

It is your responsibility to have **ALL** plumbing connections made by a qualified professional to ensure that the gas plumbing installation is adequate and conforms to local and state regulations or codes.

IMPORTANT: Failure to comply with the requirements stipulated in this manual can result in component failure, which will VOID THE WARRANTY.

NOTE: The dryer is manufactured with a pneumatic (piston) damper system, which requires an external supply of clean, dry, regulated air 80 psi +/- 10 psi (5.51 bar +/- 0.69 bar). Refer to **Steam Damper Air System Connections** on **page 24**.

1. Steam Coil pH Level

   The normal pH level for copper type steam coils **must be** maintained between a value of 8.5 to 9.5. For steel type steam coils the pH level **must be** maintained between a value of 9.5 to 10.5. These limits are set to limit the acid attack of the steam coils.

IMPORTANT: Coil failure due to improper pH level will VOID THE WARRANTY.

2. Steam Requirements - High Pressure

   Inlet -------- 1-1/4" supply line connection --- one (1) at top manifold.
   Return ----- 1-1/4" return line connection --- one (1) at bottom manifold.

Operating Steam Pressure		
Maximum	125 psig*	**861.84 kPa**
Heat Input (Normal Load)	13 Bhp	
Consumption (Approximate)	450 lbs/hr	**204 kg/hr**

Shaded areas are stated in metric equivalents

* The minimum operating pressure for optimum results is 100 psig (689.47 kPa).

3. Installation Instructions

   To ensure an adequate supply of steam is provided, be sure that the steam supply lines and steam return lines are sized and laid out as stipulated in this manual. Inadequate steam supply lines and steam return lines or improper steam plumbing will result in poor performance and can cause component failure. Clean, dry steam **must be** provided to the dryer.

IMPORTANT: Steam coil failure due to water hammer by wet steam will VOID THE WARRANTY.

   a. The presence of the condensate in the steam supply line will cause water hammer and subsequent heat exchanger (steam coil) failure. The steam supply connection into the main supply line **must be** made with a minimum 12-inch (30.48 cm) riser. This will prevent any condensate from draining towards the dryer.

   b. The steam supply line to the dryer must include a 12-inch (30.48 cm) riser along with a drip trap and check valve. This will prevent any condensate from entering the steam coil.

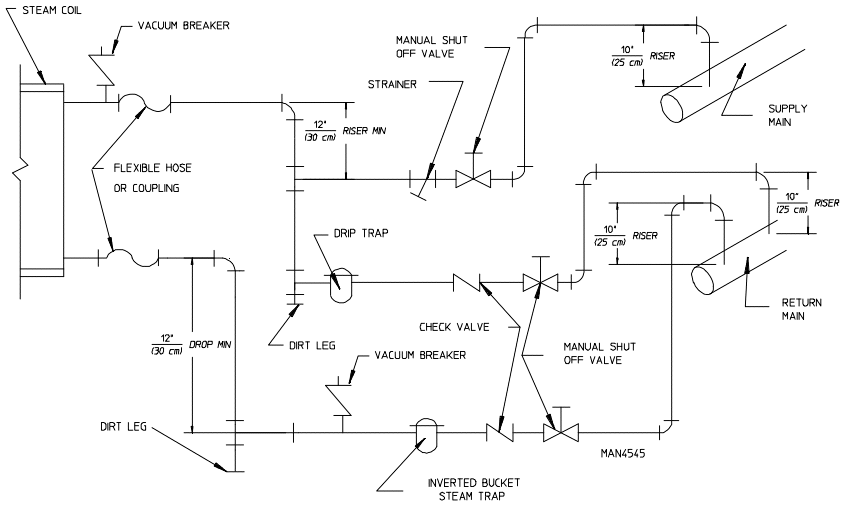
c. Flexible hoses or couplings **must be** used. The dryer vibrates slightly when it runs and this will cause the steam coil connections to crack if they are hard piped to the supply and return mains.

d. Shutoff valves for each dryer **should be** installed in the supply line, return line, and drip trap return line. This will allow the dryer to be isolated from the supply main and the return main if the dryer needs maintenance work.

e. Install an inverted bucket steam trap and check valve at least 12-inches (30.48 cm) below the steam coil as close to the coil as possible; an inverted bucket steam trap with a capacity of 1,200 lbs (544 kg) of condensate per hour @ 125 psi (8.62 bar) is required for each unit.

f. The supply line and the return line **should be** insulated. This will save energy and provide for the safety of the operator and maintenance personnel.

g. Water pockets in the supply line, caused by low points, will provide wet steam to the coil possibly causing steam coil damage. **ALL** horizontal runs of steam supply piping **should be** pitched 1/4-inch (6.35 mm) for every 1 foot (0.31 meters) back towards the steam supply header causing the condensate in the line to drain to the header. Install a bypass trap in any low point to eliminate wet steam.



4. Steam Damper Air System Connections

The dryer is manufactured with a pneumatic (piston) damper system, which requires an external supply of compressed air. The air connection is made to the steam damper solenoid valve, which is located at the rear of the top console.

a. Air Requirements

Compressed Air Supply	Air Pressure	
Normal	80 psi	**5.51 bar**
Minimum Supply	70 psi	**4.82 bar**
Maximum Supply	90 psi	**6.21 bar**

Shaded areas are stated in metric equivalents

b. Air Connection

Air connection to system --- 1/8” F.P.T.

c. No air regulator or filtration is provided with the dryer. External regulation/filtration of 80 psi (5.51 bar) **must be** provided. It is suggested that a regulator/filter gauge arrangement be added to the compressed air line just before the dryer connection. This is necessary to ensure that correct and clean air pressure is achieved.

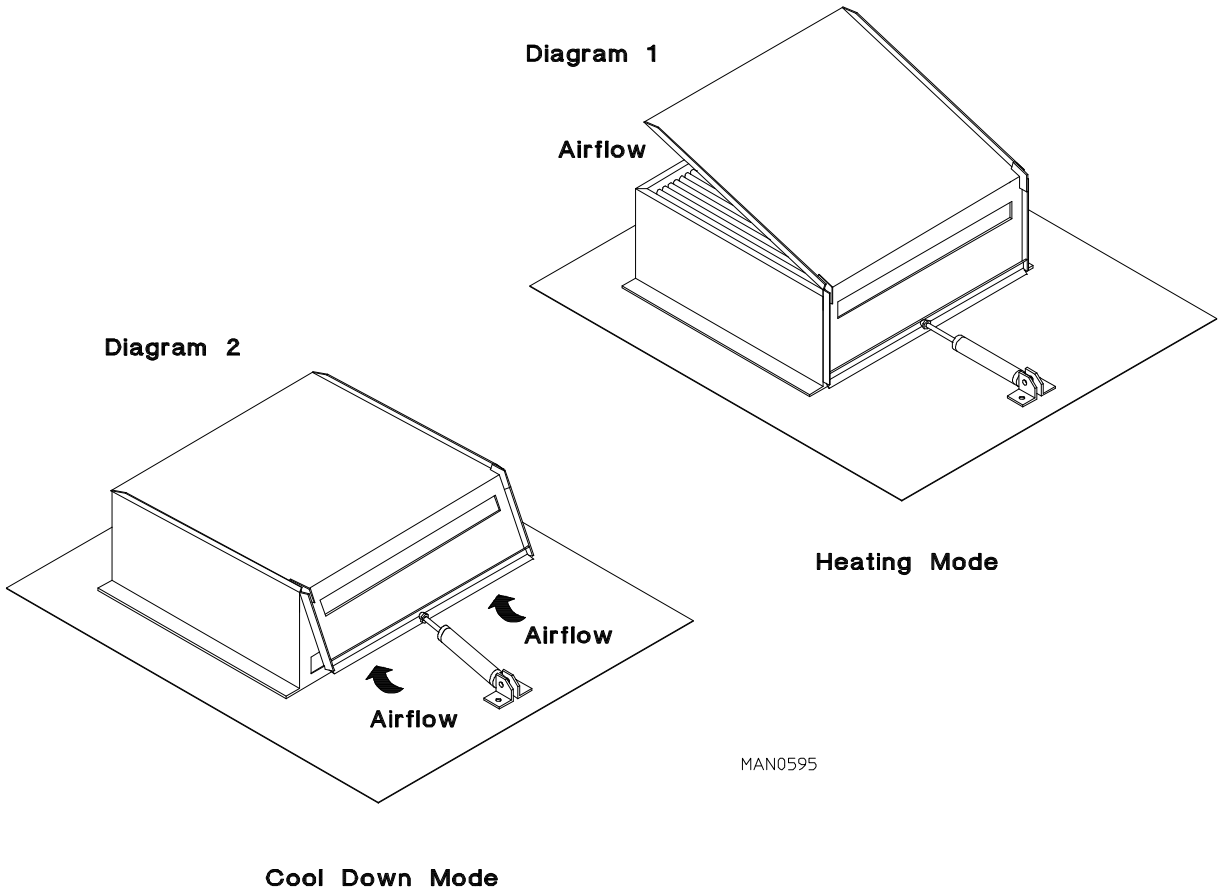
5. Steam Damper System Operation

The steam damper, as shown in **Diagram 1** below, allows the coil to stay constantly charged eliminating repeated expansion and contraction. When the damper is opened, the air immediately passes through the already hot coil, providing instant heat to start the drying process. When the damper is closed, ambient air is drawn directly into the basket (tumbler), allowing a rapid cool down.

Diagram 1 shows the damper in the heating (open) mode, allowing heat into the basket (tumbler).

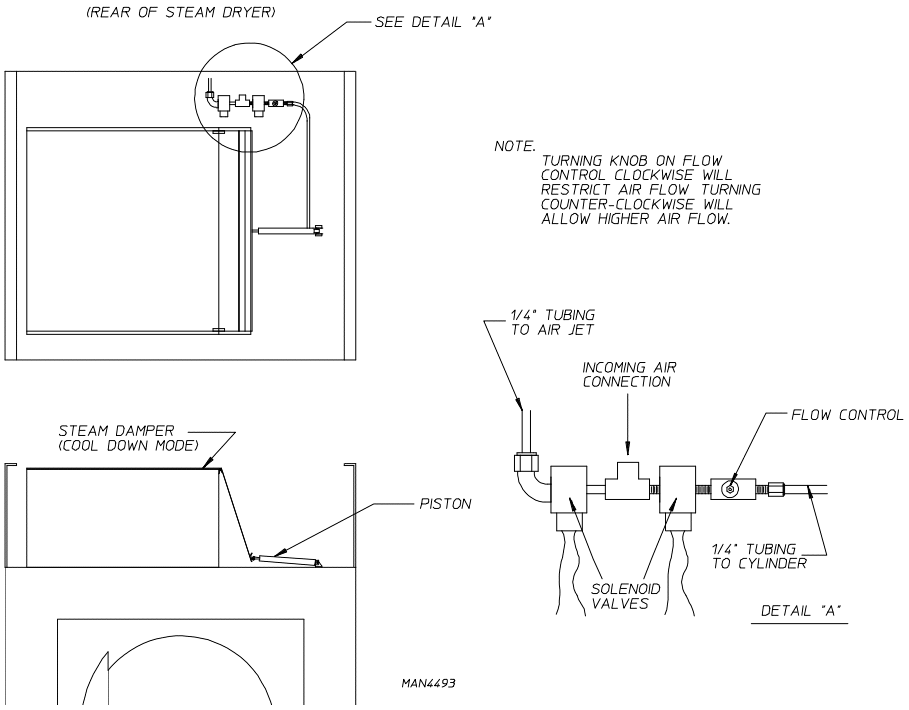
Diagram 2 shows the damper in the cool down (closed) mode, pulling ambient air directly into the basket (tumbler) without passing through the coils.

NOTE: With the dryer off or with no air supply, the steam damper is in cool down mode as shown in **Diagram 2** (refer to the **illustration below**).



6. Steam Damper Air Piston (Flow Control) Operation Adjustment

Although the steam damper operation was tested and adjusted prior to shipping at 80 psi (5.51 bar), steam damper operation **must be** checked before the dryer is put into operation. Refer to **page 30** for instructions to check steam damper operation. If steam damper adjustment is necessary, locate the flow control valve and make the necessary adjustments as noted below.



I. WATER INFORMATION

BEFORE YOU START!

CHECK LOCAL CODES AND PERMITS

Call your local water company or the proper municipal authority for information regarding local codes.

IMPORTANT:	It is your responsibility to have **ALL** plumbing connections made by a qualified professional to ensure that the plumbing installation is adequate and conforms to local, state, and federal regulations or codes.

IMPORTANT:	It is the installation or owner's responsibility to see that the necessary or required water, water pressure, pipe size, or connections are provided. The manufacturer assumes no responsibility if the fire suppression system **is not** connected, installed, or maintained properly.

Installation

1. Requirements

The fire suppression system **must be** supplied with a minimum water pipe size of 1/2" and be provided with 40 psi +/- 20 psi (2.75 bar +/- 1.37 bar) of pressure. For use of optional manual bypass, a second source with the same piping and pressure requirements is required.

Flexible 1/2 feeds **must be** provided to avoid damage to electric water solenoid valve by vibration.

IMPORTANT: Flexible supply line/coupling ***must be*** used. Solenoid valve failure due to hard plumbing connections WILL VOID WARRANTY.

If the rear area of the dryer, or the water supply is located in an area where it will be exposed to cold/freezing temperatures, provisions **must be** made to protect these water lines from freezing.

WARNING: If the water in the supply line or water solenoid valve freezes, the fire suppression system **will be** INOPERATIVE!!

IMPORTANT: Appliance is to be connected to the water mains using a new hose set and the old hose set ***should not be*** reused.

2. Water Connections:

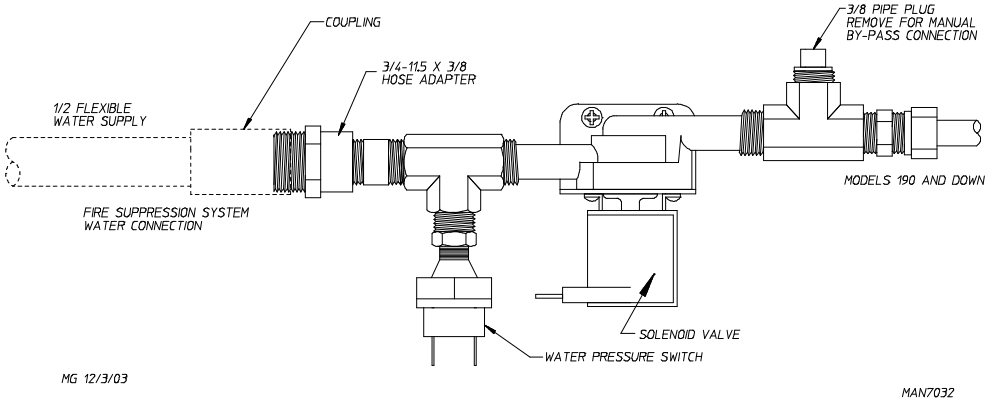
The water connection is made to the 3/4"-11.5 NH hose adapter of the electric water solenoid valve, located at the rear upper midsection of the dryer (refer to the photo).

The water solenoid valve has a 3/8" M.P.T. connection supplied with a 3/4"-11.5 NH hose adaptor to provide the minimum 1/2-inch supply (feed) line. Flexible supply line/coupling **must be** used in an effort to avoid damaging the electric water solenoid valve.

NOTE: The 3/4"-11.5 NH is a standard hose coupling screw thread. It **is not** to be confused with 3/4" N.P.T. The sealing of an NH connection is made with a washer opposed to the mating threads of an N.P.T. assembly. The two (2) thread designs **are not** compatible.

IMPORTANT: Flexible supply line/coupling ***must be*** used. Solenoid valve failure due to hard plumbing connections WILL VOID WARRANTY. **It is recommended** that a filter or strainer be installed in the water supply line.

Typical water supply:

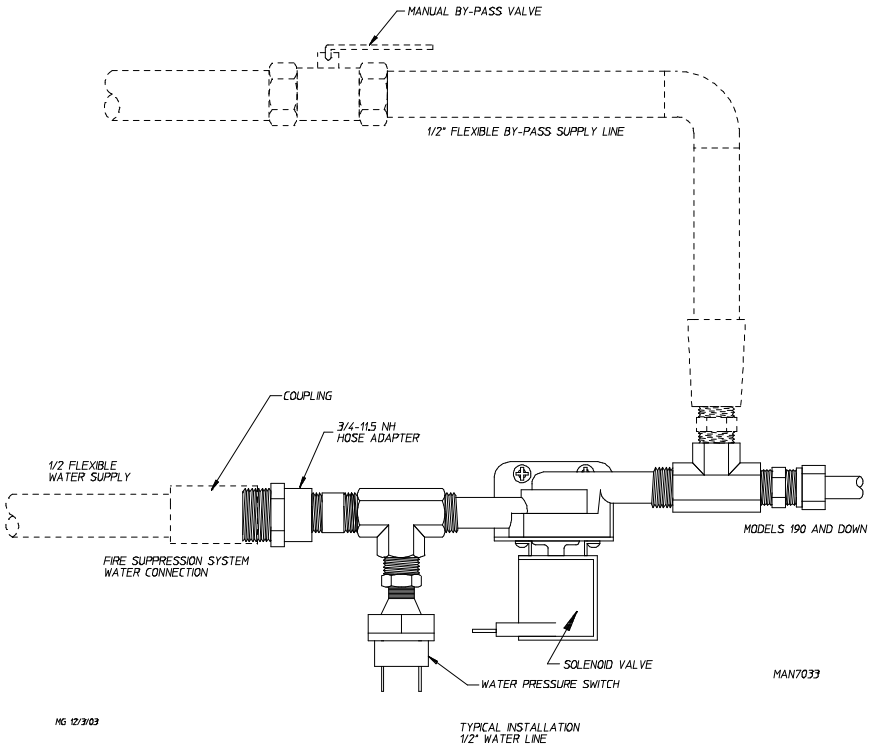


OPTIONAL MANUAL BYPASS

Provisions are made in the dryer's fire suppression system for the installation of an optional manual bypass. Depending on the model dryer, the connections for the manual bypass are made at the "T" or "four way" fitting located in the outlet supply side of the water solenoid valve. The use and connections of this manual bypass are at the option or discretion of the owner.

The water connection for the manual bypass is made to the "T" or "four way" fitting which has a 3/8" F.P.T. and a coupling **must be** used to provide the minimum 1/2" supply (feed) line.

If the rear area of the dryer, or the water supply is located in an area where it <u>will</u> <u>be</u> exposed to cold/freezing temperatures, provisions **must be** made to protect these water lines from freezing.



WARNING: If the water in the supply line or water solenoid valve freezes, the fire suppression system **<u>will</u> <u>be</u>** INOPERATIVE!!

The manual ball cock shutoff valve **must be** located outside of the dryer at a distance from the dryer where it is easily accessible.

3. Electrical Requirements

   No independent external power source or supply connection is necessary. The 24 volt power to operate the fire suppression system is accomplished internally in the dryer (from the dryer controls).

WARNING: Electrical power ***must be*** provided to the dryer at **ALL** times. If the main electrical power supply to the dryer is disconnected, the fire suppression system is INOPERATIVE!!

J. PREPARATION FOR OPERATION/START-UP

The following items **should be** checked before attempting to operate the dryer:

1. Read **ALL** "**CAUTION**," "**WARNING**," and "**DIRECTION**" labels attached to the dryer.

2. Check incoming supply voltage to be sure that it is the same as indicated on the dryer data label. In the case of 208 VAC OR 240 VAC, **THE SUPPLY VOLTAGE MUST MATCH THE ELECTRIC SERVICE EXACTLY**.

3. GAS MODELS - check to ensure that the dryer is connected to the type of heat/gas indicated on the dryer data label.

4. GAS MODELS - the sail switch damper assembly was installed and pre-adjusted at the factory prior to shipping. However, each sail switch adjustment **must be** checked to ensure that this important safety control is functioning.

5. GAS MODELS - be sure that **ALL** gas shutoff valves are in the open position.

6. Be sure that **ALL** electric box covers have been replaced.

7. Check **ALL** service doors to ensure that they are closed and secured in place.

8. Be sure the lint drawer is securely in place.

NOTE: LINT DRAWER *MUST BE* CLOSED TO ACTIVATE THE SAFETY SWITCH OTHERWISE THE DRYER WILL NOT START.

9. Rotate the basket (tumbler/drum) by hand to be sure it moves freely.

10. Check bolts, nuts, screws, terminals, and fittings for security.

11. STEAM MODELS - check to ensure air supply (80 psi [5.51 bar]) is connected to the dryer.

12. STEAM MODELS - check to ensure **ALL** steam shutoff valves are open.

13. STEAM MODELS - check steam damper operation.

14. Check basket (tumbler) bearing setscrews to ensure they are **ALL** tight.

K. PREOPERATIONAL TESTS

ALL dryers are thoroughly tested and inspected before leaving the factory. However, a preoperational test **should be** performed before the dryer is publicly used. It is possible that adjustments have changed in transit or due to marginal location (installation) conditions.

1. Turn on electric power to the dryer.

2. Make sure the main door is closed and the lint drawer is securely in place.

3. Refer to the Operating Instructions for starting your particular model dryer.

4. Check to ensure that the basket (tumbler) starts in the clockwise (CW) direction. Additionally, check the direction of the motorized impellor to ensure that the motorized impellor rotates in the clockwise (CW) direction as viewed from the front. If it is, the phasing is correct. If the phasing is incorrect, reverse two (2) of the leads at L1, L2, or L3 of the power supply connections made to the dryer.

IMPORTANT: Motorized impellor as viewed from the front must turn in the clockwise (CW) direction, otherwise the dryer efficiency **will be** drastically reduced and premature component failure can result.

5. Heat Circuit Operational Test

   a. Gas Models

      1) When the dryer is first started (during initial start-up), the burner has a tendency not to ignite on the first attempt. This is because the gas supply piping is filled with air, so it may take a few minutes for this air to be purged from the lines.

      2) The dryer is equipped with a Direct Spark Ignition (DSI) system, which has internal diagnostics. If ignition is not established after three (3) attempts, the heat circuit DSI module will LOCKOUT until it is manually reset. To reset the DSI system, open and close the main door and restart the dryer (press the "START" key).

NOTE: During the purging period, check to be sure that **ALL** gas shutoff valves are open.

      3) Once ignition is established, a gas pressure test **should be** taken at the gas valve pressure tap of each dryer to ensure that the water column (W.C.) pressure is correct and consistent.

NOTE: Water column pressure requirements (measured at the gas valve pressure tap):

Natural Gas ---------- 3.5 inches (8.7 mb) water column.
Liquid Propane (L.P.) Gas ----- 10.5 inches (26.1 mb) water column.

IMPORTANT: There is no regulator provided in an L.P. dryer. The water column pressure ***must be*** regulated at the source (L.P. tank) or an external regulator ***must be*** added to each dryer.

   b. Steam Models

      Check to ensure that the steam damper is functioning properly: the steam damper should not "slam" (open or closed) when it reaches the end of (piston) travel. Additionally, the steam damper should not bind and/or stop during travel. If either of these conditions occur, the flow control **must be** adjusted. Refer to the **illustration** on **page 26** for air adjustment instructions.

6. Make a complete operational check of **ALL** safety-related circuits (i.e., lint drawer switch, and sail switch on gas models).

> **NOTE:** To check for proper sail switch operation, open the main door and while holding main door switch plunger in, start the dryer. The dryer should start but the heat circuit ***should not be*** activated (on). If the heat (burner) does activate, shut the dryer off and make the necessary adjustments.

7. A reversing basket (tumbler) dryer **should never be** operated with less than a 79 lb (35.83 kg) load (dry weight). The size of the load will affect the coast-down and dwell (stop) times. The basket (tumbler) must come to a complete stop before starting in the opposite direction.

   a. Microprocessor Controller (Computer) Dryer Models

      1) Spin and stop times are not adjustable in the Automatic Mode and have been preprogrammed into the microprocessor controller (computer) for 150-seconds spin time in the forward direction and 120-seconds in the reverse direction with a 5-second dwell (stop) time.

      2) Spin and stop times are adjustable in the Manual (timed) Mode.

   b. Dual Timer Dryer Models

      Both spin time and dwell (stop) time are adjustable (refer to **page 32**).

BASKET COATING

The basket (tumbler) is treated with a protective coating. We suggest dampening old garments or cloth material with a solution of water and nonflammable mild detergent and tumbling them in the basket (tumbler) to remove this coating.

8. Each dryer **should be** operated through one (1) complete cycle to ensure that no further adjustments are necessary and that **ALL** components are functioning properly.

9. Make a complete operational check of **ALL** operating controls.

   Microprocessor controller (computer) programs/selections: each computer has been preprogrammed by the factory with the most commonly used parameter (program) selections. If computer program changes are required, refer to the computer programming manual, which was shipped with the dryer.

L. PREOPERATIONAL INSTRUCTIONS

1. The light emitting diode (L.E.D.) display reads “READY” (no cycle in progress).

2. Press the letter on the keyboard (touch pad) corresponding to the cycle desired (i.e., key “D”).

> **NOTE:** “0-40” WILL REQUIRE THE “START/ENTER” KEY TO BE PRESSED AFTER THE NUMBER IS SELECTED IN ORDER TO ACCEPT THE SELECTION AND START DRYING.

3. The dryer will then start. (i.e., blower, basket [tumbler], and heat).

4. The L.E.D. display will read MANUAL DRYING CYCLE D, 00:00 MIN REMAIN.

NOTE: Press and hold the "UP ARROW" to view the basket (tumbler) temperature at any time.

NOTE: The dryer can be stopped at any time by pressing the "STOP/CLEAR" key, at this time the dryer will go into a cycle pause. If the "STOP/CLEAR" key is pressed again at this point, the cycle that was in progress **will be** cancelled and returned to the "READY" state.

NOTE: Press and hold the "DOWN ARROW" to view the basket (tumbler) RPM.

5. When the programmed drying time has expired, the Phase 7 non-coin microprocessor controller (computer) will proceed into the Cool Down Cycle.

6. Once the Cool Down Cycle begins at the end of the heat cycle, the light emitting diode (L.E.D.) display will read COOL DOWN TEMP ___/___ MINUTES REMAINING. At the end of the heat cycle, the dryer will shut off the heat and continue the fan and basket (tumbler) until the Cool Down Time or temperature is reached.

IMPORTANT: For more detailed information regarding the microprocessor controller (computer) on your dryer, refer to the microprocessor user's manual included with the dryer.

DUAL TIMER DRYERS

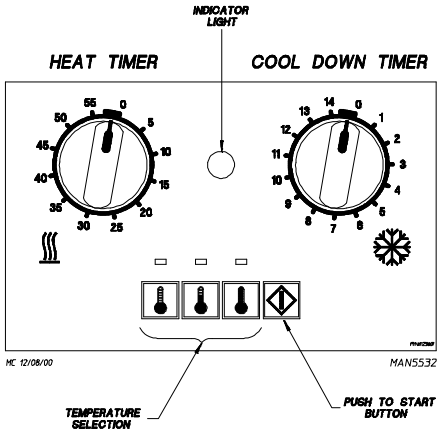
1. Turn drying timer knob for a time of 20 minutes.

2. Select "High Temp."

3. Push "Push to Start" switch.

4. To stop dryer, open the main door.

   Spin and dwell (stop) times are adjustable at the reversing timer.

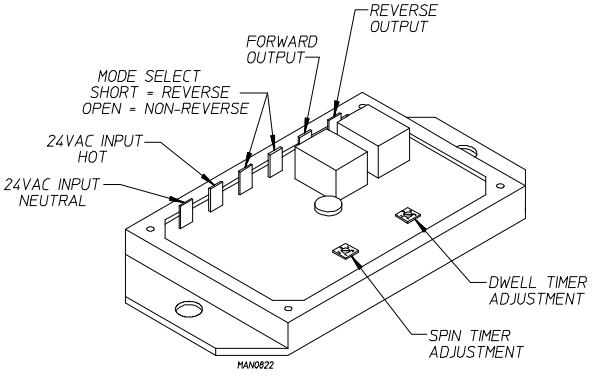


REVERSING TIMER SPIN/DWELL ADJUSTMENTS

Timer models have an electronic reversing timer in the electrical service box, which is located in the upper left rear area of the dryer.

Both the dwell (stop) time and the basket (tumbler) spin time are adjustable by mode selection switches located on the electronic timer (as noted in the **illustration below**).

TIMING LEGEND					
SPIN TIME					
Adjustment Position Number	1	2	3	4	5
Time in Seconds*	30	60	90	120	150
DWELL (STOP) TIME					
Adjustment Position Number	1	2	3	4	5
Time in Seconds*	5	6.3	7.6	8.9	10.2
* Values shown are +/- 1-second.					



M. COMPRESSED AIR REQUIREMENTS

The dryer requires an external supply of compressed air (3.25 cfh at 80 psi [0.09 cmh at 5.51 bar] for gas models and 4.25 cfh at 80 psi [0.12 cmh at 5.51 bar] for steam models). For steam models, compressed air is necessary for the air operated steam damper. On both the steam models as well as the gas models, compressed air is necessary/required for blower air jet operation to clean lint from the impellor/fan (squirrel cage).

1. Air Requirements

   Microprocessor Controller (Computer) Dryers

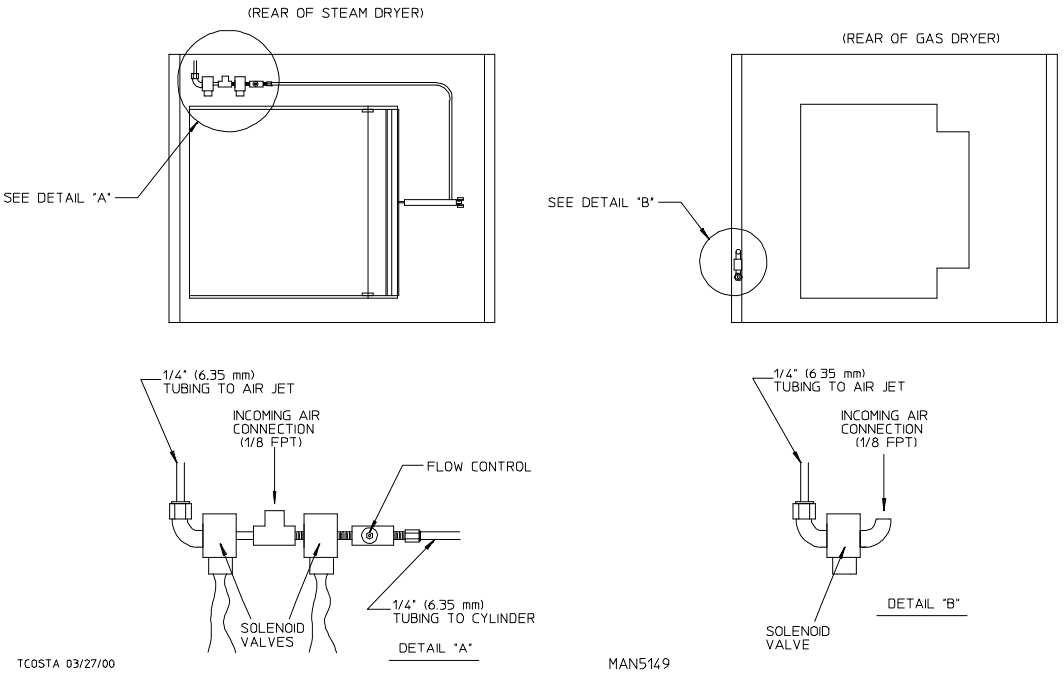
Compressed Air Supply	Air Pressure	
Normal	80 psi	**5.51 bar**
Minimum Supply	70 psi	**4.82 bar**
Maximum Supply	90 psi	**6.21 bar**

Shaded areas are stated in metric equivalents

2. Air Regulation
   No air regulation or air filtration is provided with the dryer. External regulation/filtration of 80 psi (5.51 bar) **must be** provided. It is suggested that a filter/regulator/gauge arrangement be added to the compressed air line just before the dryer connection. This is necessary to ensure that correct and clean air pressure is achieved.

3. Air Connection

   Incoming air connection to this system is an 1/8" F.P.T. (female pipe thread) as per the **illustration below**.



N. SHUTDOWN INSTRUCTIONS

If the dryer is to be shut down (taken out of service) for a period of time, the following **must be** performed:

1. Discontinue power to the dryer either at the external disconnect switch or the circuit breaker.
2. Discontinue the heat supply:
   a. **GAS MODELS - discontinue the gas supply**.

      SHUT OFF external gas supply shutoff valve.

   b. **STEAM MODELS - discontinue the steam supply**.

      SHUT OFF external (location furnished) shutoff valve.

SECTION IV

SERVICE/PARTS INFORMATION

A. SERVICE

Service **must be** performed by a qualified trained technician, service agency, or gas supplier. If service is required, contact the reseller from whom the **ADC** equipment was purchased. If the reseller **cannot** be contacted or is unknown, contact the **ADC** Service Department for a reseller in your area.

> **NOTE:** When contacting the **ADC** Service Department, be sure to give them the correct **model number** and **serial number** so that your inquiry is handled in an expeditious manner.

B. PARTS

Replacement parts **should be** purchased from the reseller from whom the **ADC** equipment was purchased. If the reseller **cannot** be contacted or is unknown, contact the **ADC** Parts Department for a reseller in your area. Parts may also be purchased directly from the factory by calling the **ADC** Parts Department at (508) 678-9000 or you may FAX in your order at (508) 678-9447.

> **NOTE:** When ordering replacement parts from the **ADC** reseller or the **ADC** factory be sure to give them the correct **model number** and **serial number** so that your parts order can be processed in an expeditious manner.

SECTION V
WARRANTY INFORMATION

A. RETURNING WARRANTY CARDS

Before any dryer leaves the **ADC** factory test area, a warranty card is placed on the back side of the main door glass. These warranty cards are intended to serve the customer where we record the individual installation date and warranty information to better serve you should you file a warranty claim.

If a warranty card did not come with your dryer, contact the **ADC** Warranty Department or the **ADC** Service Department at (508) 678-9000.

IMPORTANT: A separate warranty card ***must be*** completed and returned for each individual dryer.

NOTE: Be sure to include the installation date when returning the warranty card(s).

B. WARRANTY

For a copy of the **ADC** commercial warranty covering your particular dryer(s), contact the **ADC** reseller from whom you purchased the equipment and request a dryer warranty form. If the reseller **cannot** be contacted or is unknown, warranty information can be obtained from the factory by contacting the **ADC** Warranty Department at (508) 678-9000.

NOTE: Whenever contacting the **ADC** factory for warranty information, be sure to have the dryer's **model number** and **serial number** available so that your inquiry can be handled in an expeditious manner.

C. RETURNING WARRANTY PARTS

ALL dryer or parts warranty claims or inquiries **should be** addressed to the **ADC** Warranty Parts Department. To expedite processing, the following procedures **must be** followed:

1. No parts are to be returned to **ADC** without prior written authorization ("Return Material Authorization" [R.M.A.]) from the factory.

NOTE: An R.M.A. is valid for only thirty (30) days from date of issue.

The R.M.A. issued by the factory, as well as any other correspondence pertaining to the returned part(s), **must be** included inside the package with the failed merchandise.

2. Each part **must be** tagged with the following information:

   a. **Model number** and **serial number** of the dryer from which part was removed.

   b. Nature of failure (be specific).

   c. Date of dryer installation.

   d. Date of part failure.

   e. Specify whether the part(s) being returned is for a replacement, a credit, or a refund.

NOTE: If a part is marked for a credit or a refund, the invoice number covering the purchase of the replacement part ***must be*** provided.

NOTE: Warranty tags **(ADC** P/N 450064) are available at "no charge" from **ADC** upon request.

3. The company returning the part(s) must clearly note the complete company name and address on the outside of the package.

4. **ALL** returns **must be** properly packaged to ensure that they are not damaged in transit. *Damage claims are the responsibility of the shipper.*

IMPORTANT: No replacements, credits, or refunds **will be** issued for merchandise damaged in transit.

5. **ALL** returns **should be** shipped to the **ADC** factory in such a manner that they are insured and a proof of delivery can be obtained by the sender.

6. **Shipping charges are not the responsibility of ADC. ALL returns should be "prepaid" to the factory. Any "C.O.D." or "COLLECT" returns will not be accepted**.

IMPORTANT: No replacements, credits, or refunds **will be** issued if the claim **cannot** be processed due to insufficient information. The party filing the claim **will be** notified in writing, either by "FAX" or "CERTIFIED MAIL - Return Receipt Requested," as to the information necessary to process claim. If reply **is not** received by the **ADC** Warranty Department within thirty (30) days from the FAX/letter date, then no replacements, credits, or refunds **will be** issued, and the merchandise **will be** discarded.

SECTION VI
ROUTINE MAINTENANCE

A. CLEANING

A program and/or schedule **should be** established for periodic inspection, cleaning, and removal of lint from various areas of the dryer, as well as throughout the ductwork system. The frequency of cleaning can best be determined from experience at each location. Maximum operating efficiency is dependent upon proper air circulation. The accumulation of lint can restrict this airflow. If the guidelines in this section are met, an **ADC** dryer will provide many years of efficient, trouble free, and most importantly, safe operation.

WARNING: LINT FROM MOST FABRICS IS HIGHLY COMBUSTIBLE. THE ACCUMULATION OF LINT CAN CREATE A POTENTIAL FIRE HAZARD.

WARNING: KEEP DRYER AREA CLEAR AND FREE FROM COMBUSTIBLE MATERIALS, GASOLINE, AND OTHER FLAMMABLE VAPORS AND LIQUIDS.

NOTE: REMOVE POWER FROM THE DRYER BEFORE PERFORMING ANY MAINTENANCE IN THE DRYER.

NOTE: Suggested time intervals shown are for average usage which is considered six (6) to eight (8) operational (running) hours per day.

IMPORTANT: Dryer produces combustible lint and ***must be*** exhausted to the outdoors. Every 6 months, inspect the exhaust ducting and remove any lint buildup.

CLEAN LINT FROM LINT DRAWER/SCREEN EVERY THIRD OR FOURTH LOAD.

NOTE: The frequency of cleaning the lint screens can best be determined from experience at each location.

WEEKLY

Clean lint accumulation from the lint chamber, thermostat, and microprocessor temperature sensor (sensor bracket) area.

WARNING: TO AVOID HAZARD OF ELECTRICAL SHOCK, DISCONTINUE ELECTRICAL POWER SUPPLY TO THE DRYER.

STEAM DRYERS

Clean the steam coil fins. It is suggested that compressed air and a vacuum cleaner with brush attachment be used.

NOTE: When cleaning steam coil fins, be careful not to bend the fins. If fins are bent, straighten by using a fin comb, which is available from any local air conditioning supply house.

90 DAYS

Remove lint from around basket (tumbler), drive motors, and surrounding areas. Remove lint from the gas valve burner area with a dusting brush or vacuum cleaner attachment.

Remove lint accumulation from inside the control box and at rear area behind the control box.

6 MONTHS

Inspect and remove lint accumulation in customer furnished exhaust ductwork system and from dryer's internal exhaust ducting.

NOTE: THE ACCUMULATION OF LINT IN THE EXHAUST DUCTWORK CAN CREATE A POTENTIAL FIRE HAZARD.

NOTE: ***DO NOT*** OBSTRUCT THE FLOW OF COMBUSTION AND VENTILATION AIR. CHECK CUSTOMER FURNISHED BACK DRAFT DAMPERS IN THE EXHAUST DUCTWORK. INSPECT AND REMOVE ANY LINT ACCUMULATION, WHICH CAN CAUSE THE DAMPER TO BIND OR STICK.

NOTE: A back draft damper that is sticking partially closed can result in slow drying and shutdown of the heat circuit safety switches or thermostats.

NOTE: When cleaning the dryer cabinet(s), avoid using harsh abrasives. A product intended for the cleaning of appliances is recommended.

Check **ALL** V-belts for tightness and wear. Retighten, realign, or replace V-belt if required.

NOTE: Replace in matched sets (both belts).

B. ADJUSTMENTS

7 DAYS AFTER INSTALLATION AND EVERY 6 MONTHS THEREAFTER

Inspect bolts, nuts, screws, setscrews, grounding connections, and nonpermanent gas connections (unions, shutoff valves, and orifices). Motor and drive belts **should be** examined. Cracked or seriously frayed belts **should be** replaced. Tighten loose V-belts when necessary. Complete operational check of controls and valves. Complete operational check of **ALL** safety devices (door switch, lint drawer switch, sail switch, burner and hi-limit thermostat).

C. LUBRICATION

The drive shaft bearings and idler shaft bearings **should be** lubricated every 3 months. Use a #2 Alvania grease or its equivalent. Lubrication is necessary.

The motor bearings and under normal/most conditions the basket (tumbler) bearing are permanently lubricated. It is physically possible to relubricate the basket (tumbler) bearing if you choose to do so even though this practice may not be necessary. Use Industrial Chevron ball or roller bearing SRI grease NLGI2 or its equivalent, which has a broad operating temperature range of -22° F (-30° C) to 350° F (177° C).

SECTION VII

MANUAL RESET BURNER HI-LIMIT INSTRUCTIONS

A. PHASE 7

This dryer was manufactured with a manual reset burner hi-limit thermostat, which is monitored by the Phase 7 computer. If the burner hi-limit is open prior to the start of the drying cycle, the dryer will start momentarily and then shut down, the Phase 7 computer will display "BURNER HIGH LIMIT FAULT" with an audio indication.

If the burner hi-limit opens during a drying cycle, the Phase 7 computer will also display the same error code described above, along with an audio indication. If the drum temperature is above 100° F (38° C), the dryer will continue to run with no heat for 3 minutes or until the drum temperature has dropped below 100° F (38° C). The clear/stop button on the Phase 7 keyboard (touch pad) **must be** pressed to clear the error condition.

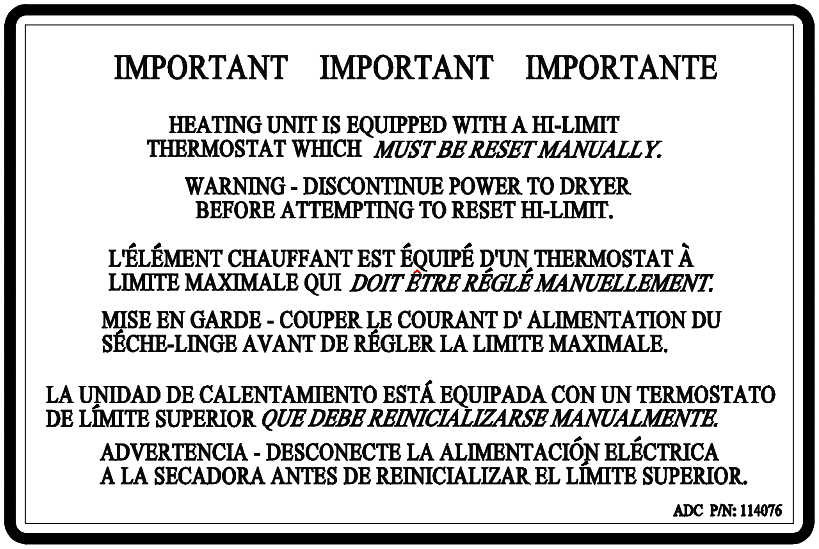
B. DUAL TIMER

This dryer was manufactured with a manual reset burner hi-limit thermostat. If the burner hi-limit is open prior to the start of the drying cycle, or during the cycle, the dryer will not recognize the open state of the burner hi-limit and will start or continue through the drying cycle with no heat. Manual reset hi-limit **must be** reset manually.

This hi-temperature condition may be caused due to a restricted exhaust, poor airflow, or improper burner operation.

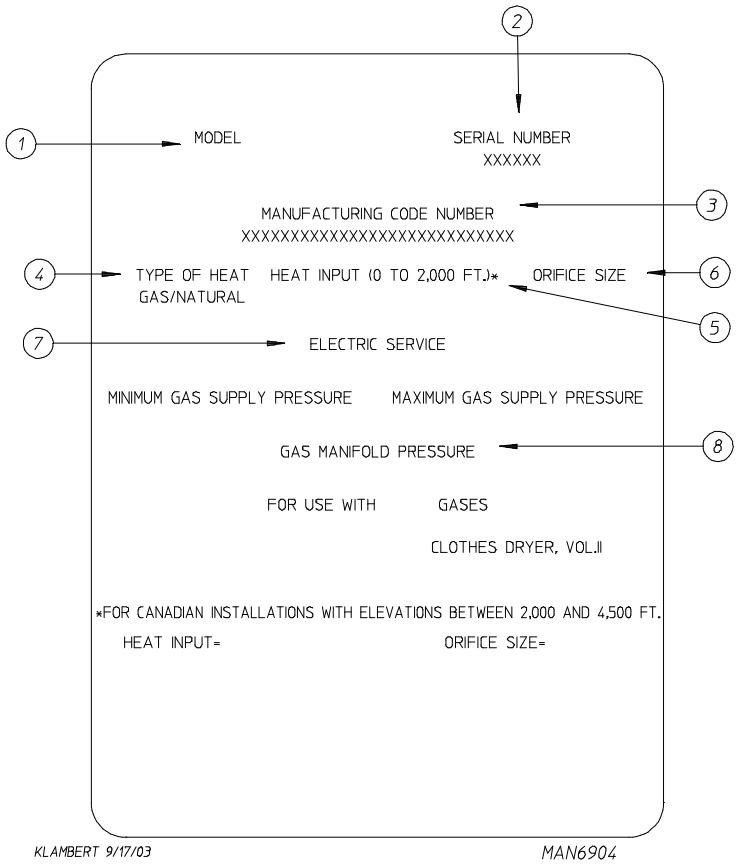
The location of the burner hi-limit is on the right side of the burner box, looking at the burner from the back of the dryer.

WARNING: Discontinue power to dryer before attempting to reset hi-limit.


IMPORTANT IMPORTANT IMPORTANTE
HEATING UNIT IS EQUIPPED WITH A HI-LIMIT THERMOSTAT WHICH MUST BE RESET MANUALLY.
WARNING - DISCONTINUE POWER TO DRYER BEFORE ATTEMPTING TO RESET HI-LIMIT.
L'ÉLÉMENT CHAUFFANT EST ÉQUIPÉ D'UN THERMOSTAT À LIMITE MAXIMALE QUI DOIT ÊTRE RÉGLÉ MANUELLEMENT.
MISE EN GARDE - COUPER LE COURANT D' ALIMENTATION DU SÈCHE-LINGE AVANT DE RÉGLER LA LIMITE MAXIMALE.
LA UNIDAD DE CALENTAMIENTO ESTÁ EQUIPADA CON UN TERMOSTATO DE LÍMITE SUPERIOR QUE DEBE REINICIALIZARSE MANUALMENTE.
ADVERTENCIA - DESCONECTE LA ALIMENTACIÓN ELÉCTRICA A LA SECADORA ANTES DE REINICIALIZAR EL LÍMITE SUPERIOR.
ADC P/N: 114076

SECTION VIII

DATA LABEL INFORMATION



When contacting **ADC,** certain information is required to ensure proper service/parts information from **ADC**. This information is on the data label that is affixed to the left side panel/wall area behind the control door. When contacting **ADC** please have the **model number** and **serial number** available.

1. **MODEL NUMBER** – Describes the size of the dryer and the type of heat (gas, electric, or steam).
2. **SERIAL NUMBER** – Allows the manufacturer to gather information on your particular dryer.
3. **MANUFACTURING CODE NUMBER** – The number issued by the manufacturer**,** which describes **ALL** possible options on your particular model.
4. **TYPE OF HEAT** – This describes the type of heat for your particular dryer, gas (either natural gas or liquid propane [L.P.] gas), electric, or steam.
5. **HEAT INPUT** (for GAS DRYERS) – This describes the heat input in British Thermal Units per Hour (Btu/hr).
6. **ORIFICE SIZE** (for GAS DRYERS) – Gives the number drill size used.
7. **ELECTRIC SERVICE** – This describes the electric service for your particular model.
8. **GAS MANIFOLD PRESSURE** (for GAS DRYERS) – This describes the manifold pressure taken at the gas valve tap.

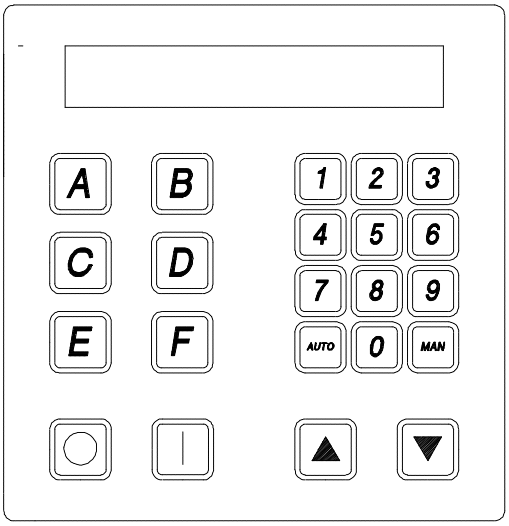
SECTION IX

PROCEDURE FOR FUNCTIONAL CHECK OF REPLACEMENT COMPONENTS

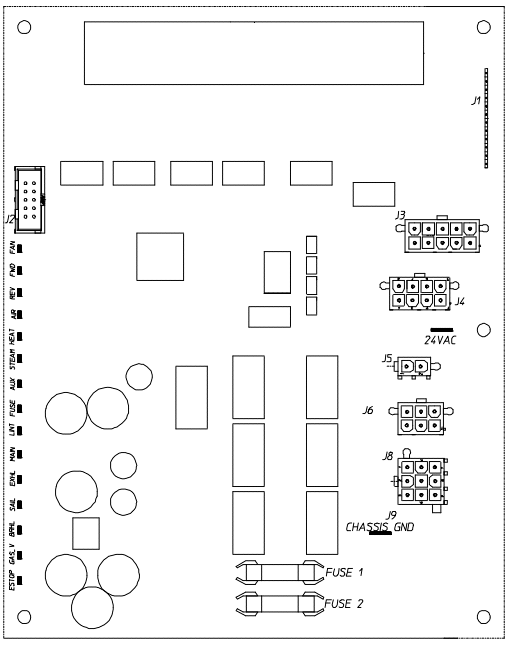
1. Microprocessor Controller (Computer) Board

   a. Upon completing installation of the replacement microprocessor controller (computer) board, reestablish power to the dryer.

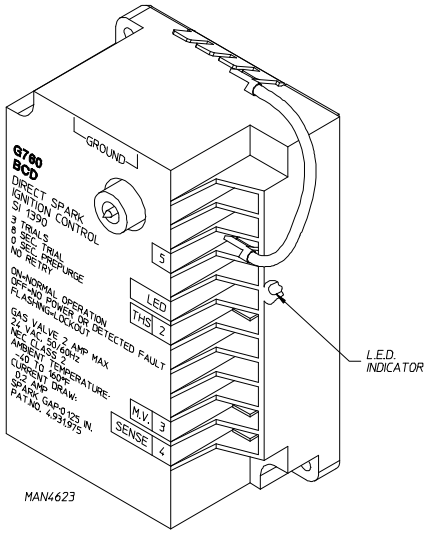
   b. Start the drying cycle by pressing any of the preset cycles in letters A-F.



   c. Verify that the applicable indicator lights on the microprocessor controller (computer) board are lit. (Refer to the **illustration below**.)



2. <u>For Models with Direct Spark Ignition (DSI) Module (Type I)</u>



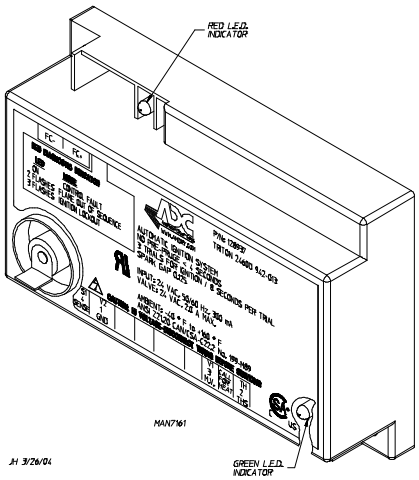
Theory of Operation:

Start the drying cycle. When the gas burner ignites within the chosen trial for ignition time (6-seconds), the flame sensor detects gas burner flame and signals the DSI module to keep the gas valve open as long as there is a call for heat. The DSI module will "LOCKOUT" if the gas burner flame <u>is not</u> sensed at the end of the trial for ignition period. The trial for ignition period <u>will be</u> repeated for a total of three (3) retries/trials (the initial try and two [2] more retries/trials). If the flame <u>is not</u> sensed at the end of the third retry/trial (inter-purge period of 30-seconds) the DSI module will "LOCKOUT" (light emitting diode [L.E.D.] diagnostic indicator flashes).

A steady L.E.D. indicator indicates normal operation.

No L.E.D. indicator indicates a power or an internal failure has occurred.

3. <u>For Models with DSI Module (Type II)</u>



Theory of Operation:

Start the drying cycle. When the gas burner ignites within the chosen trial for ignition time (8-seconds), the flame sensor detects gas burner flame and signals the DSI module to keep the gas valve open as long as there is a call for heat. The DSI module will "LOCKOUT" if the gas burner flame <u>is not</u> sensed at the end of the trial for ignition period. The trial for ignition period <u>will be</u> repeated for a total of three (3) retries/trials (the initial try and two [2] more retries/trials). If the flame <u>is not</u> sensed at the end of the third retry/trial (inter-purge period of 30-seconds), the DSI module will "LOCKOUT" (a red L.E.D. diagnostic indicator will flash).

An unlit red L.E.D. diagnostic indicator indicates normal operation.

A lit green L.E.D. diagnostic indicator indicates dryer controller is calling for heat and that **<u>ALL</u>** interlocks have been satisfied.

American Dryer Corp.